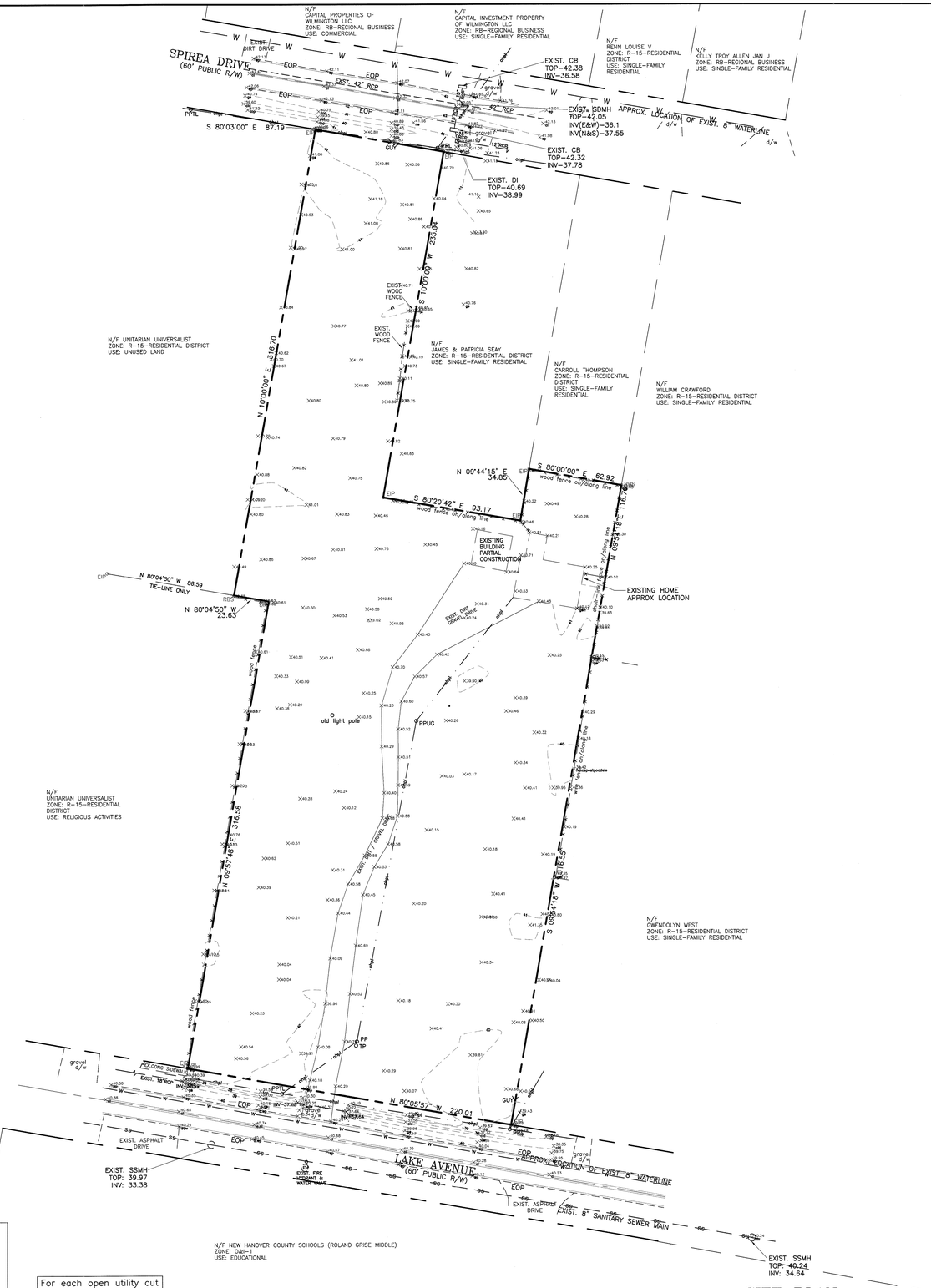
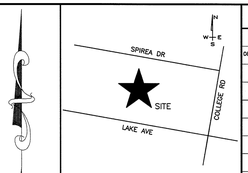




LOCATION MAP
NOT TO SCALE

SITE DATA:

PROPERTY OWNER	CENTER 206, LLC
PROJECT ADDRESS	4329 LAKE AVENUE WILMINGTON, NC 28411
PREVIOUS SITE ADDRESSES	4317,4319,4321,4329 LAKE AVENUE 4312 SPIREA DRIVE WILMINGTON, NC 28411
PIN NUMBERS	R06106-006-006-000 R06106-006-005-001 R06106-006-042-000 R06106-006-005-000 R06106-006-043-000

NO WETLANDS LOCATED ON-SITE
LATITUDE AND LONGITUDE 34°12'25"N 77°53'24"W

AREA NOT IN A FEMA 100-YEAR FLOOD ZONE.
ZONING DISTRICT MF-L (CD), MULTI-FAMILY LOW DENSITY (CONDITIONAL DISTRICT)
TRACT AREA 112,171 SF (2.57 AC)

LEGEND

- +21.73 EXIST. SPOT ELEVATION
- PROPERTY LINE (BOUNDARY)
- RIGHT OF WAY

SITE PLAN

BAR SCALE 1"=40'

40' 20' 0' 40' 80' 120'

Approved Construction Plan	Name	Date
Planning		
Traffic		
Fire		

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE _____ PERMIT # _____
SIGNED_____

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

REVISIONS

No./ Date	Description	By
06-08-13	SW REVISIONS	BPD

EXISTING CONDITIONS
LAKE PARK VILLAGE
4329 LAKE AVENUE
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631
© 2013 TRIPP ENGINEERING, P.C.

NORTH CAROLINA PROFESSIONAL SEAL 17374 ENGINEER PHILIP GREGORY TRIPP

8-1-13

DATE 08-01-13
DESIGN PGT
DRAWN EJW

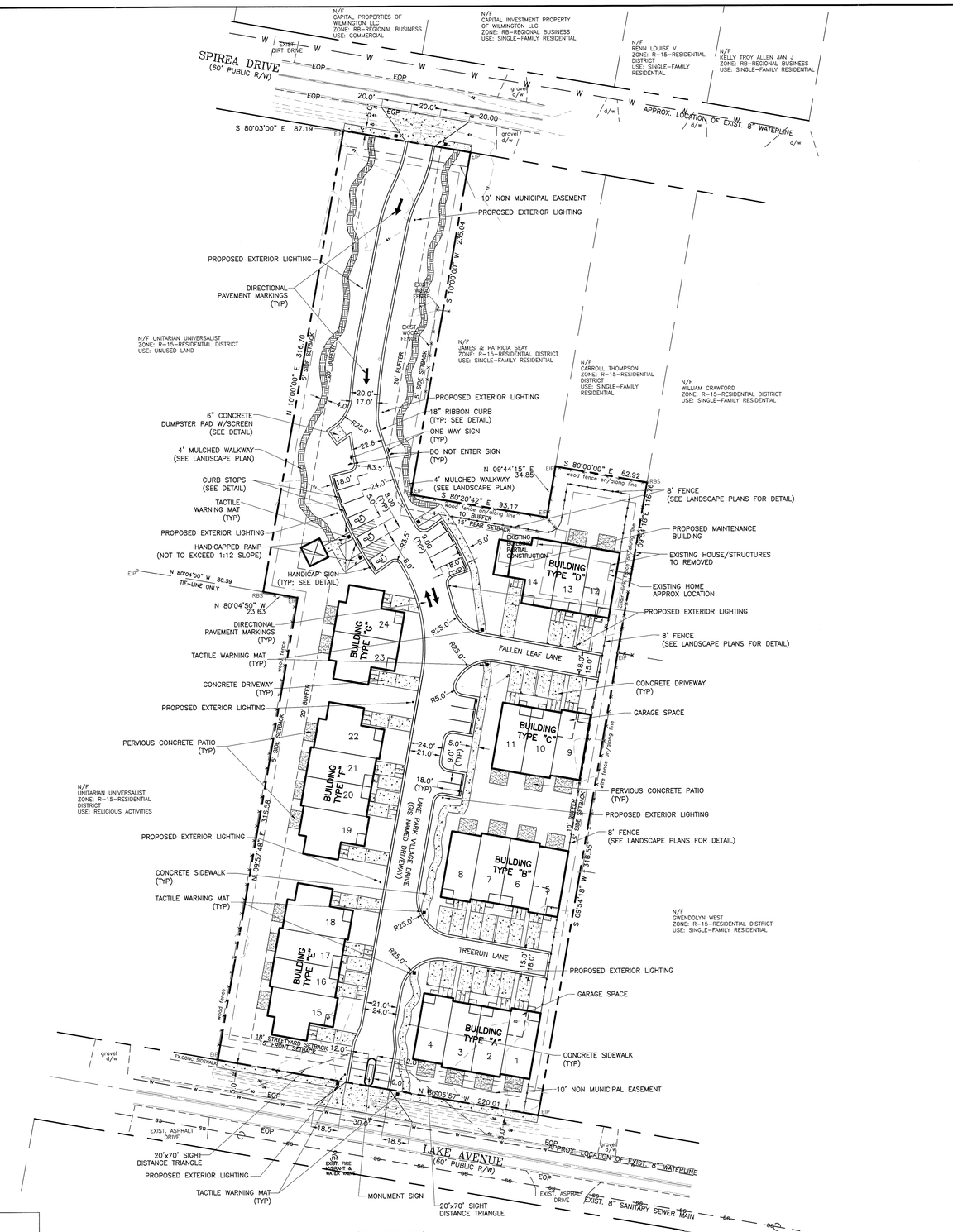
C1

SHEET 1 OF 5

12034

NOTES:
1) TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
2) ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3) ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
6) 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.
7) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
8) CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
9) PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES.
10) NO CONSTRUCTION WORKERS, TOOLS MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
11) NO OBSTRUCTIONS, INCLUDING VEGETATION SHALL BE PERMITTED IN THE SPACE BETWEEN 30" AND 10' ABOVE GROUND LEVEL WITHIN THE SIGHT DISTANCE TRIANGLE.
12) SITE LIGHTING WILL NOT SHINE ONTO ADJACENT RESIDENTIALLY ZONED OR USED PROPERTIES. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13) SEE LANDSCAPE PLAN AND TREE REMOVAL PLAN FOR TREE PROTECTION LAYOUT.
14) A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDING OF THE FINAL PLAT.
15) PIPE MANUFACTURING REPRESENTATIVE TO BE ON-SITE AT LEAST 2 DAYS FOR TECHNICAL ASSISTANCE DURING INFILTRATION TRENCH PIPE CONSTRUCTION. CONTRACTOR TO COORDINATE WITH CONTECH ENGINEERED SOLUTIONS PRIOR TO CONSTRUCTION. (CONTACT: PHILIP BYRD, 910-228-8421)
16) ALL PATIOS TO BE PERVIOUS/PERMEABLE MATERIALS. (TYPICAL)
17) CONTRACTOR TO LOCATE DEPTH, MATERIAL, SIZE, AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
18) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
19) ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
20) THE SUBDIVIDER SHALL INSTALL TRAFFIC SIGNALS, TRAFFIC SIGNS, STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION, DEAD-END BARRICADES AND MARKINGS, AND OTHER REQUIRED TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CITY'S TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL.
21) ALL IMPROVEMENTS IN THE RIGHT-OF-WAY INVOLVING STORMWATER MANAGEMENT SHALL COMPLY WITH THE CITY OF WILMINGTON CONSTRUCTION/INSTALLATION STANDARDS (SECTION V-J PER THE CITY OF WILMINGTON TECHNICAL STANDARDS)
22) ALL R/W WORK WILL BE COMPLETED PRIOR TO ANY RAIN EVENT OR WILL NEED SEDIMENT TRAP IN DITCH WITH DETAIL, MAINTENANCE AND CALCULATIONS.

APPROVED CONDITIONAL DISTRICT ZONING CONDITIONS:
1) THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL COMPLY WITH ALL REGULATIONS AND REQUIREMENTS IMPOSED BY THE LAND DEVELOPMENT CODE, THE CITY OF WILMINGTON TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL AND ANY OTHER APPLICABLE FEDERAL, STATE OR LOCAL LAW, ORDINANCE OR REGULATION, AS WELL AS ANY CONDITION STATED BELOW. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT OR HIGHER STANDARD SHALL APPLY.
2) APPROVAL OF THIS REZONING REQUEST DOES NOT CONSTITUTE TECHNICAL APPROVAL OF THE SITE PLAN. FINAL APPROVAL BY THE TECHNICAL REVIEW COMMITTEE AND THE ISSUANCE OF ALL REQUIRED PERMITS MUST OCCUR PRIOR TO RELEASE OF THE PROJECT FOR CONSTRUCTION.
3) IF, FOR ANY REASON, ANY CONDITION FOR APPROVAL IS FOUND TO BE ILLEGAL OR INVALID OR IF THE APPLICANT SHOULD FAIL TO ACCEPT ANY CONDITION FOLLOWING APPROVAL, THE APPROVAL OF THE SITE PLAN FOR THE DISTRICT SHALL BE NULL AND VOID AND OF NO EFFECT AND PROCEEDINGS SHALL BE INSTITUTED TO REZONE THE PROPERTY TO ITS PREVIOUS ZONING CLASSIFICATION.
4) THE USE AND DEVELOPMENT OF THE SUBJECT PROPERTY SHALL BE IN ACCORDANCE WITH THE PLAN AS SUBMITTED OCTOBER 25, 2012 AND APPROVED. THE PERMITTED USE SHALL BE RESTRICTED TO A MAXIMUM 24-UNIT MULTI-FAMILY DEVELOPMENT.
5) ALL EXISTING PROTECTED TREES NOT IMPACTED BY ESSENTIAL SITE IMPROVEMENTS SHALL BE PRESERVED OR MITIGATED.
6) THE DEVELOPMENT MUST COMPLY WITH ALL OPEN SPACE REQUIREMENTS.
7) ACCESS TO THE SITE SHALL BE PROVIDED TO LAKE AVENUE AND SPIREA DRIVE; SPIREA DRIVE WILL BE AN INGRESS ONLY ACCESS.
8) SIDEWALKS SHALL BE PROVIDED ON LAKE AVENUE AND SPIREA DRIVE.
9) STREETYARDS SHALL BE INSTALLED ON LAKE AVENUE AND SPIREA DRIVE.
10) BUFFERYARDS IN ACCORDANCE WITH ARTICLE 8 OF THE LAND DEVELOPMENT CODE SHALL BE INSTALLED ADJACENT TO ALL EXISTING SINGLE-FAMILY DISTRICTS.
11) EXTERIOR SITE LIGHTING SHALL BE INSTALLED SO AS NOT TO SHINE DIRECTLY ONTO ADJACENT PARCELS.
12) A CONCEPTUAL SITE LIGHTING PLAN SHALL BE SUBMITTED PRIOR TO CONSTRUCTION RELEASE.
13) ANY FREESTANDING SIGN(S) ON THE SITE SHALL BE MONUMENT STYLE WITH LANDSCAPING AROUND THE BASE OF THE SIGN; NO POLE SIGNS SHALL BE PERMITTED AND INTERNAL ILLUMINATION SHALL BE PROHIBITED.
14) ALL APPLICABLE CITY, STATE AND FEDERAL REGULATIONS SHALL BE FOLLOWED.



SITE DATA:

PROPERTY OWNER	CENTER 206, LLC
PROJECT ADDRESS	4329 LAKE AVENUE WILMINGTON, NC 28411
PREVIOUS SITE ADDRESSES	4317,4319,4321,4329 LAKE AVENUE 4312 SPIREA DRIVE WILMINGTON, NC 28411
PIN NUMBERS	R06106-006-006-000 R06106-006-005-001 R06106-006-042-000 R06106-006-005-000 R06106-006-043-000
NO WETLANDS LOCATED ON-SITE	
LATITUDE AND LONGITUDE	34°12'25"N 77°53'24"W
AREA NOT IN A FEMA 100-YEAR FLOOD ZONE.	
ZONING DISTRICT	MF-L (CD), MULTI-FAMILY LOW DENSITY (CONDITIONAL DISTRICT)
DISTURBED AREA	2.79 AC (TOTAL) 2.57 AC (ON-SITE) 0.22 AC (OFF-SITE)
SETBACKS REQUIRED	FRONT: 15' REAR: 15' SIDE (INTERIOR): 5' SIDE (CORNER): 10'
SETBACKS PROPOSED	FRONT: 18' REAR: 20' SIDE (INTERIOR): 10' AND 25.5' SIDE (CORNER): N/A
TRACT AREA	112,171 SF (2.57 AC)
BUILDING USE	MULTI-FAMILY
PROPOSED # OF UNITS	24 (2-STORY UNITS)
MAXIMUM BUILDING HEIGHT	REQUIRED: 35' PROPOSED: 27'
CAMA LAND USE:	URBAN

EXISTING IMPERVIOUS AREAS (ON-SITE):

EXISTING BUILDINGS	2,000 SF
EXISTING GRAVEL ROAD	7,100 SF
EXISTING IMPERVIOUS TO BE REMOVED	9,100 SF
EXISTING IMPERVIOUS TO REMAIN	0 SF (0.0%)

PROPOSED IMPERVIOUS AREAS: (ON-SITE)

PROPOSED BUILDINGS	23,856 SF
PROPOSED SHELTER	196 SF
TOTAL BUILDING LOT COVERAGE	24,052 SF (21.5%)
PROPOSED ASPHALT/CURB	21,540 SF
PROPOSED CONCRETE (SIDEWALK/PATIO/D.W.)	10,535 SF
PROPOSED FUTURE IMPERVIOUS	2,000 SF
PROPOSED ON-SITE IMPERVIOUS AREA	58,127 SF (52%)
PROPOSED+EXISTING IMPERVIOUS AREA	58,127 SF (52%)

PROPOSED IMPERVIOUS AREAS: (OFF-SITE)

PROPOSED DRIVEWAY APRON	1,685 SF
PROPOSED OFF-SITE SIDEWALK	975 SF
PROPOSED OFF-SITE IMPERVIOUS AREA	2,660 SF
ON-SITE+OFF-SITE IMPERVIOUS AREA	60,787 SF (50%)

PARKING INFO:

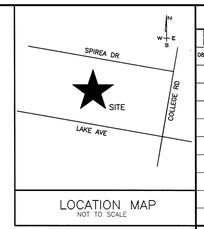
MINIMUM: 2.25/3-BED UNIT (24 UNITS)	54 SPACES
MAXIMUM: 2.50/3-BED UNIT (24 UNITS)	60 SPACES
PROPOSED OFF-STREET PARKING	12 SPACES
PROPOSED HANDICAPPED PARKING	3 SPACES
REQUIRED HANDICAPPED PARKING	3 SPACES
PROPOSED DRIVEWAY PARKING	41 SPACES
TOTAL PARKING SPACES PROVIDED	56 SPACES

PUBLIC WATER AND SEWER BY CFPUA

PROPOSED WATER FLOW: (360 GPD/UNIT x 24 UNITS x 110%)	9,504 GPD
PROPOSED SEWER FLOW: (360 GPD/UNIT x 24 UNITS)	8,640 GPD

*NOTE: 1 UNIT = 3 BEDROOMS

*NOTE: OPEN SPACE, SETBACKS, AND BUFFERS SHOWN ON LANDSCAPE PLAN.



LOCATION MAP
NOT TO SCALE

REVISIONS		
No./Date	Description	By
08-08-13	SW REVISIONS	BPD

LEGEND
- PROPERTY LINE (BOUNDARY)
- RIGHT OF WAY
- PROPOSED CONCRETE AREA
- PROPOSED MULCHED AREA
- PROPOSED PERVIOUS CONCRETE PATIO

SITE PLAN
BAR SCALE 1"=40'
40' 20' 0' 40' 80' 120'

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE _____ PERMIT # _____
SIGNED_____

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

SITE PLAN
LAKE PARK VILLAGE
4329 LAKE AVENUE
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631

© 2012 TRIPP ENGINEERING, P.C.

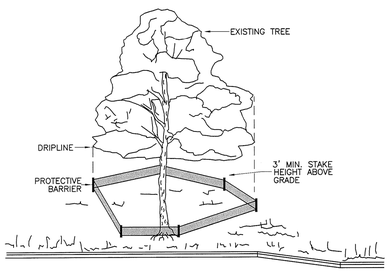
8-1-13

NORTH CAROLINA PROFESSIONAL SEAL 17374 ENGINEER PHILLIP GREGORY TRIPP

DATE 08-01-13
DESIGN PGT
DRAWN EJW

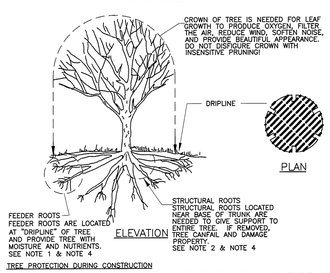
C2
SHEET 2 OF 5
12034

NOTES:
1) TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
2) ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3) ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
6) 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.
7) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
8) CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
9) PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES.
10) NO CONSTRUCTION WORKERS, TOOLS MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
11) NO OBSTRUCTIONS, INCLUDING VEGETATION SHALL BE PERMITTED IN THE SPACE BETWEEN 30" AND 10' ABOVE GROUND LEVEL WITHIN THE SIGHT DISTANCE TRIANGLE.
12) SITE LIGHTING WILL NOT SHINE ONTO ADJACENT RESIDENTIALLY ZONED OR USED PROPERTIES. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13) SEE LANDSCAPE PLAN AND TREE REMOVAL PLAN FOR TREE PROTECTION LAYOUT.
14) A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDING OF THE FINAL PLAT.
15) PIPE MANUFACTURING REPRESENTATIVE TO BE ON-SITE AT LEAST 2 DAYS FOR TECHNICAL ASSISTANCE DURING INFILTRATION TRENCH PIPE CONSTRUCTION. CONTRACTOR TO COORDINATE WITH CONTECH ENGINEERED SOLUTIONS PRIOR TO CONSTRUCTION. (CONTACT: PHILIP BYRD, 910-228-8421)
16) ALL PATIOS TO BE PERVIOUS/PERMEABLE MATERIALS. (TYPICAL)
17) CONTRACTOR TO LOCATE DEPTH, MATERIAL, SIZE, AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
18) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
19) ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
20) THE SUBDIVIDER SHALL INSTALL TRAFFIC SIGNALS, TRAFFIC SIGNS, STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION, DEAD-END BARRICADES AND MARKINGS, AND OTHER REQUIRED TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CITY'S TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL.
21) ALL IMPROVEMENTS IN THE RIGHT-OF-WAY INVOLVING STORMWATER MANAGEMENT SHALL COMPLY WITH THE CITY OF WILMINGTON CONSTRUCTION/INSTALLATION STANDARDS (SECTION V-J PER THE CITY OF WILMINGTON TECHNICAL STANDARDS)
22) ALL R/W WORK WILL BE COMPLETED PRIOR TO ANY RAIN EVENT OR WILL NEED SEDIMENT TRAP IN DITCH WITH DETAIL, MAINTENANCE AND CALCULATIONS.



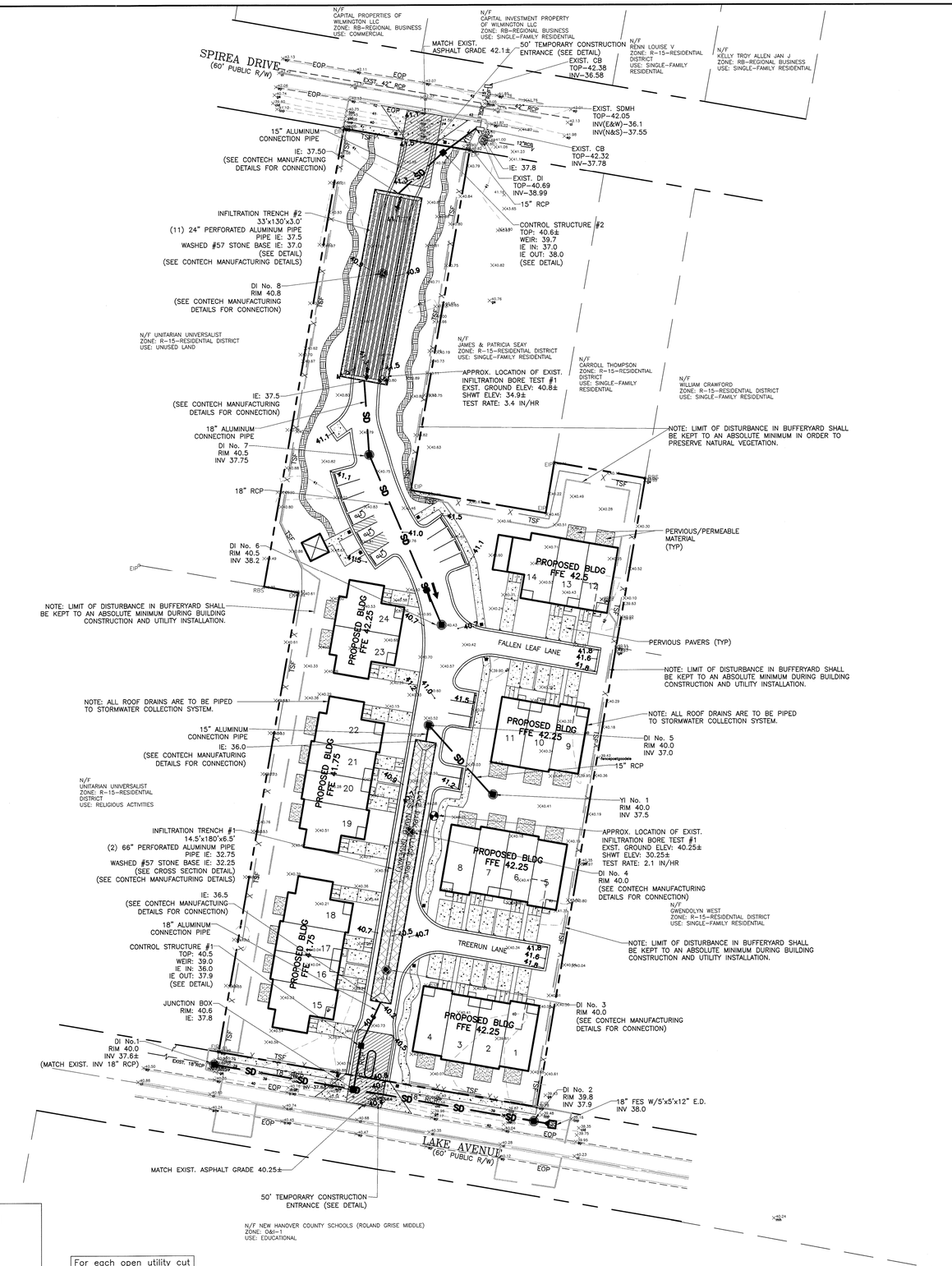
NOTE:
TREES TO BE SAVED WILL BE CLEARLY MARKED PRIOR TO CONSTRUCTION AND A PROTECTIVE BARRIER IS TO BE INSTALLED AT THE DRIPLINE.
DRIP LINE - THE AREA OF SOIL DIRECTLY BENEATH THE TREE EXTENDING OUT TO THE TIPS OF THE OUTERMOST BRANCHES.

METHOD OF TREE PROTECTION DURING CONSTRUCTION
SD 15-08
NOT TO SCALE

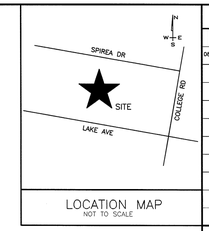


TREE PROTECTION DURING CONSTRUCTION
1. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO HEAVY MATERIALS SHALL BE STORED BENEATH TREES. RESULTS OF COMPACTION CAUSE WATER AND AIR NOT TO REACH THE ROOTS AND THE TREE WILL DIE. THESE "FEEDING ROOTS" OCCUR WELL AWAY FROM THE BASE OF THE TREE TO THE EDGE OF THE OVERHEAD BRANCH CANOPY. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. APROTECTIVE BARRIER SHOULD PREVENT DAMAGE FROM OCCURING DURING CONSTRUCTION.
2. NO CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK. THESE ARE ESSENTIAL IN SUPPORTING THE TREE AND HOLDING IT UPRIGHT IN HIGH WINDS. REMOVAL OF THESE ROOTS ALONG ONE SIDE IS OFTEN DONE BECAUSE OF A WALK, PAVING OR BUILDING WHICH IS BEING CONSTRUCTED.
3. AVOID CUT AND FILL WITHIN DIAMETER OF TREE CROWN DURING EXCAVATION.

METHOD OF TREE PROTECTION DURING CONSTRUCTION
SD 15-09
NOT TO SCALE



SITE PLAN
BAR SCALE 1"=40'
40' 20' 0' 40' 80' 120'



LOCATION MAP
NOT TO SCALE

SITE DATA:

PROPERTY OWNER	CENTER 206, LLC
PROJECT ADDRESS	4329 LAKE AVENUE WILMINGTON, NC 28411
PREVIOUS SITE ADDRESSES	4317,4319,4321,4329 LAKE AVENUE 4312 SPIREA DRIVE WILMINGTON, NC 28411
PIN NUMBERS	R06106-006-006-000 R06106-006-005-001 R06106-006-042-000 R06106-006-005-000 R06106-006-043-000
NO WETLANDS LOCATED ON-SITE	
LATITUDE AND LONGITUDE	34°12'25"N 77°53'24"W
AREA NOT IN A FEMA 100-YEAR FLOOD ZONE.	
ZONING DISTRICT	MF-L (CD), MULTI-FAMILY LOW DENSITY (CONDITIONAL DISTRICT)
DISTURBED AREA	2.79 AC (TOTAL) 2.57 AC (ON-SITE) 0.22 AC (OFF-SITE)
SETBACKS REQUIRED	FRONT: 15' REAR: 15' SIDE (INTERIOR): 5' SIDE (CORNER): 10'
SETBACKS PROPOSED	FRONT: 18' REAR: 20' SIDE (INTERIOR): 10' AND 25.5' SIDE (CORNER): N/A
TRACT AREA	112,171 SF (2.57 AC)
BUILDING USE	MULTI-FAMILY
PROPOSED # OF UNITS	24 (2-STORY UNITS)
MAXIMUM BUILDING HEIGHT	REQUIRED: 35' PROPOSED: 27'
CAMA LAND USE:	URBAN

EXISTING IMPERVIOUS AREAS (ON-SITE):

EXISTING BUILDINGS	2,000 SF
EXISTING GRAVEL ROAD	7,100 SF
EXISTING IMPERVIOUS TO BE REMOVED	9,100 SF
EXISTING IMPERVIOUS TO REMAIN	0 SF (0.0%)

PROPOSED IMPERVIOUS AREAS: (ON-SITE)

PROPOSED BUILDINGS	23,856 SF
PROPOSED SHELTER	196 SF
TOTAL BUILDING LOT COVERAGE	24,052 SF (21.5%)
PROPOSED ASPHALT/CURB	21,540 SF
PROPOSED CONCRETE (SIDEWALK/PATIO/D.W.)	10,535 SF
PROPOSED FUTURE IMPERVIOUS	2,000 SF
PROPOSED ON-SITE IMPERVIOUS AREA	58,127 SF (52%)
PROPOSED+EXISTING IMPERVIOUS AREA	58,127 SF (52%)

PROPOSED IMPERVIOUS AREAS: (OFF-SITE)

PROPOSED DRIVEWAY APRON	1,685 SF
PROPOSED OFF-SITE SIDEWALK	975 SF
PROPOSED OFF-SITE IMPERVIOUS AREA	2,660 SF
ON-SITE+OFF-SITE IMPERVIOUS AREA	60,787 SF (50%)

PARKING INFO:

MINIMUM: 2.25/3-BED UNIT (24 UNITS)	54 SPACES
MAXIMUM: 2.50/3-BED UNIT (24 UNITS)	60 SPACES
PROPOSED OFF-STREET PARKING	12 SPACES
PROPOSED HANDICAPPED PARKING	3 SPACES
REQUIRED HANDICAPPED PARKING	3 SPACES
PROPOSED DRIVEWAY PARKING	41 SPACES
TOTAL PARKING SPACES PROVIDED	56 SPACES

PUBLIC WATER AND SEWER BY CFPUA

PROPOSED WATER FLOW: (360 GPD/UNIT x 24 UNITS x 110%)	9,504 GPD
PROPOSED SEWER FLOW: (360 GPD/UNIT x 24 UNITS)	8,640 GPD

*NOTE: 1 UNIT = 3 BEDROOMS

*NOTE: OPEN SPACE, SETBACKS, AND BUFFERS SHOWN ON LANDSCAPE PLAN.

LEGEND

+31.73	EXIST. SPOT ELEVATION
—31.2	PROPOSED SPOT ELEVATION
	PROPERTY LINE (BOUNDARY)
	RIGHT OF WAY
	LIMITS OF DISTURBANCE
TSF X TSF	TEMPORARY SILT FENCE
	PROPOSED CONCRETE AREA
	PROPOSED MULCHED AREA
	INFILTRATION TRENCH
	PROPOSED PERVIOUS CONCRETE PATIO
	INLET PROTECTION

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE _____ PERMIT # _____
SIGNED_____

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

REVISIONS

No./Date	Description	By
08-08-13	SW REVISIONS	BPD

GRADING, DRAINAGE, EROSION CONTROL, AND STORMWATER MANAGEMENT PLAN
LAKE PARK VILLAGE
4329 LAKE AVENUE
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631

2012 TRIPP ENGINEERING, P.C.
© ALL RIGHTS RESERVED

NORTH CAROLINA PROFESSIONAL SEAL 17374 ENGINEER PHILIP GREGORY TRIPP

8-1-13

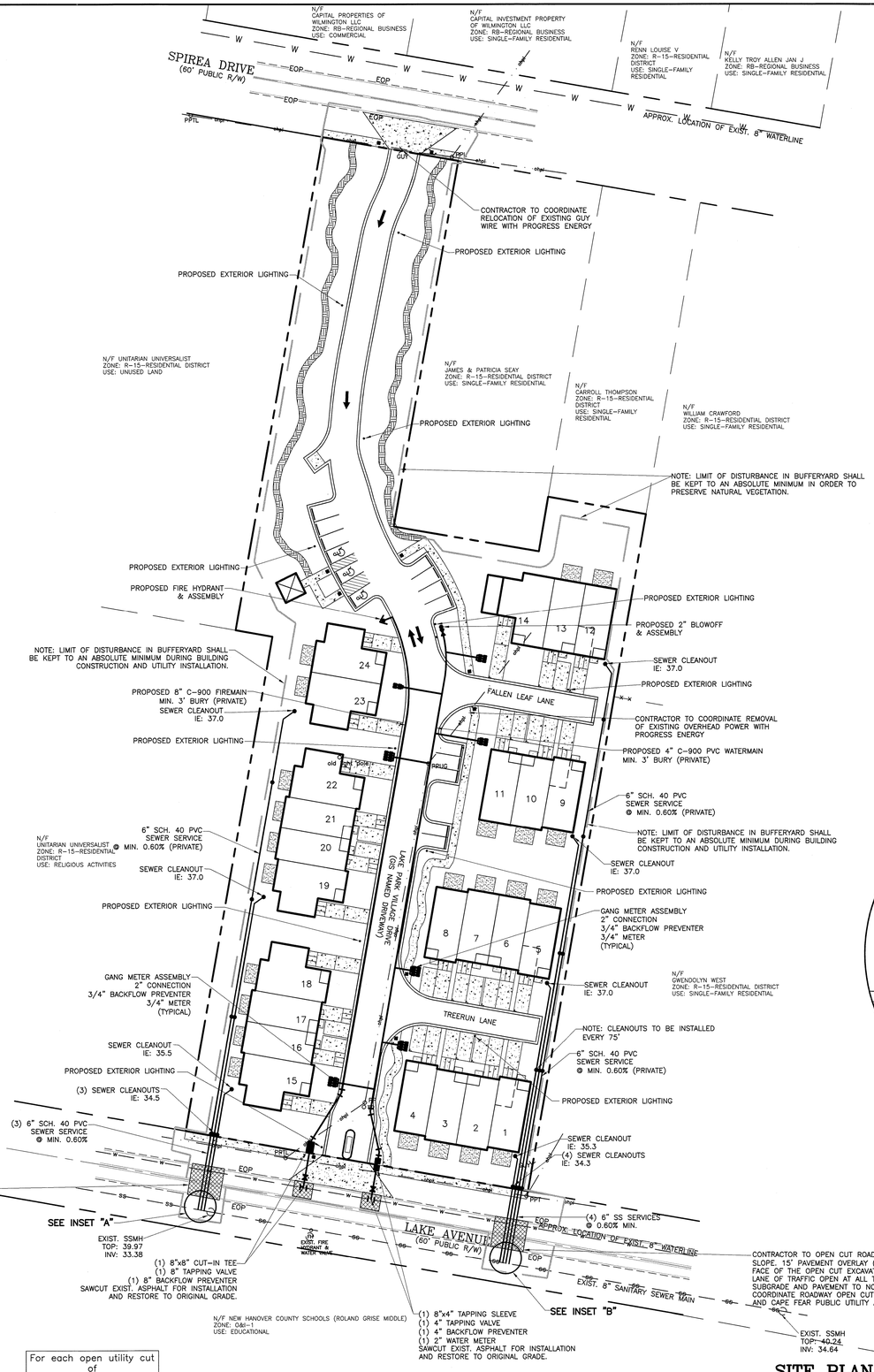
DATE 08-01-13
DESIGN PGT
DRAWN EJW

C3

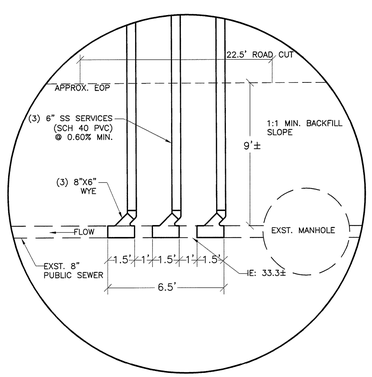
SHEET 3 OF 5

12034

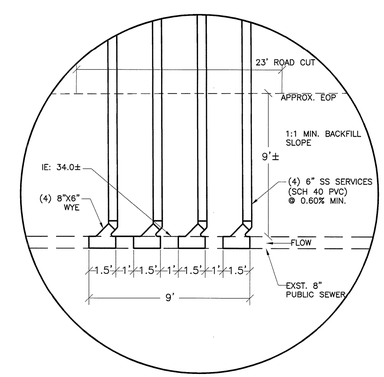
NOTES:
1) TACTILE WARNING MATS ARE TO BE INSTALLED ON ALL WHEELCHAIR RAMPS.
2) ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
3) ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
4) ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5) ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
6) 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.
7) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
8) CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
9) PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES.
10) NO CONSTRUCTION WORKERS, TOOLS MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
11) NO OBSTRUCTIONS, INCLUDING VEGETATION SHALL BE PERMITTED IN THE SPACE BETWEEN 30" AND 10' ABOVE GROUND LEVEL WITHIN THE SIGHT DISTANCE TRIANGLE.
12) SITE LIGHTING WILL NOT SHINE ONTO ADJACENT RESIDENTIALLY ZONED OR USED PROPERTIES. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13) SEE LANDSCAPE PLAN AND TREE REMOVAL PLAN FOR TREE PROTECTION LAYOUT.
14) A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO RECORDING OF THE FINAL PLAT.
15) PIPE MANUFACTURING REPRESENTATIVE TO BE ON-SITE AT LEAST 2 DAYS FOR TECHNICAL ASSISTANCE DURING INFILTRATION TRENCH PIPE CONSTRUCTION. CONTRACTOR TO COORDINATE WITH CONTECH ENGINEERED SOLUTIONS PRIOR TO CONSTRUCTION. (CONTACT: PHILIP BYRD, 910-228-8421)
16) ALL PATIOS TO BE PERVIOUS/PERMEABLE MATERIALS. (TYPICAL)
17) CONTRACTOR TO LOCATE DEPTH, MATERIAL, SIZE, AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
18) INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
19) ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
20) THE SUBDIVIDER SHALL INSTALL TRAFFIC SIGNALS, TRAFFIC SIGNS, STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION, DEAD-END BARRICADES AND MARKINGS, AND OTHER REQUIRED TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CITY'S TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL.
21) ALL IMPROVEMENTS IN THE RIGHT-OF-WAY INVOLVING STORMWATER MANAGEMENT SHALL COMPLY WITH THE CITY OF WILMINGTON CONSTRUCTION/INSTALLATION STANDARDS (SECTION V-J PER THE CITY OF WILMINGTON TECHNICAL STANDARDS)
22) ALL R/W WORK WILL BE COMPLETED PRIOR TO ANY RAIN EVENT OR WILL NEED SEDIMENT TRAP IN DITCH WITH DETAIL, MAINTENANCE AND CALCULATIONS.



SITE PLAN
BAR SCALE 1"=40'
40' 20' 0' 40' 80' 120'



INSET "A"
NTS



INSET "B"
NTS

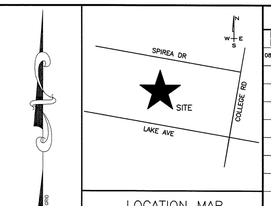
LEGEND
- PROPERTY LINE (BOUNDARY)
- RIGHT OF WAY
- LIMITS OF DISTURBANCE
- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING SEWER MAIN
- PROPOSED SEWER MAIN

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE _____ PERMIT # _____
SIGNED_____

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



LOCATION MAP
NOT TO SCALE

REVISIONS

No./ Date	Description	By
08-08-13	SW REVISIONS	BPD

UTILITY PLAN
LAKE PARK VILLAGE
4329 LAKE AVENUE
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631

© 2013 TRIPP ENGINEERING, P.C. All Rights Reserved

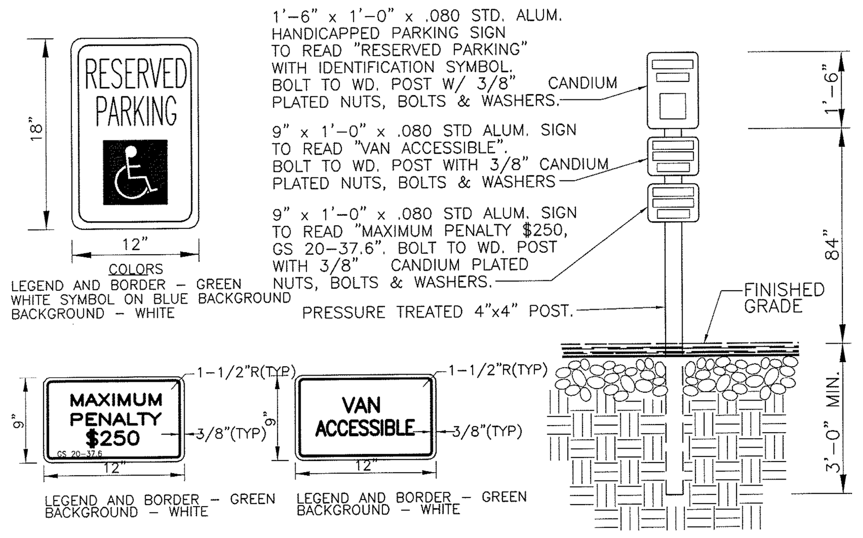
NORTH CAROLINA PROFESSIONAL SEAL 17374 ENGINEER PHILLIP GREGORY TRIPP
8.1.13

DATE 08-01-13
DESIGN PGT
DRAWN EJW

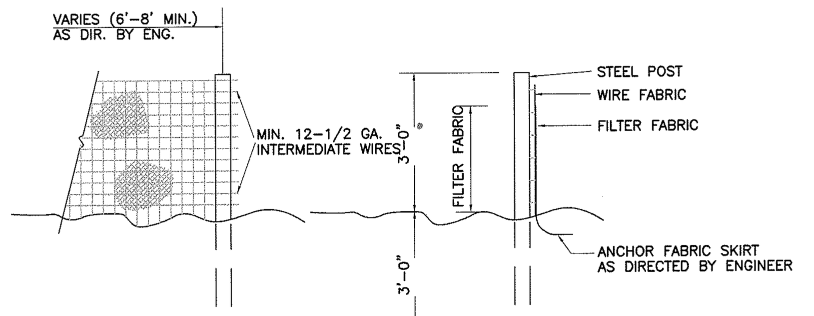
C4

SHEET 4 OF 5

12034

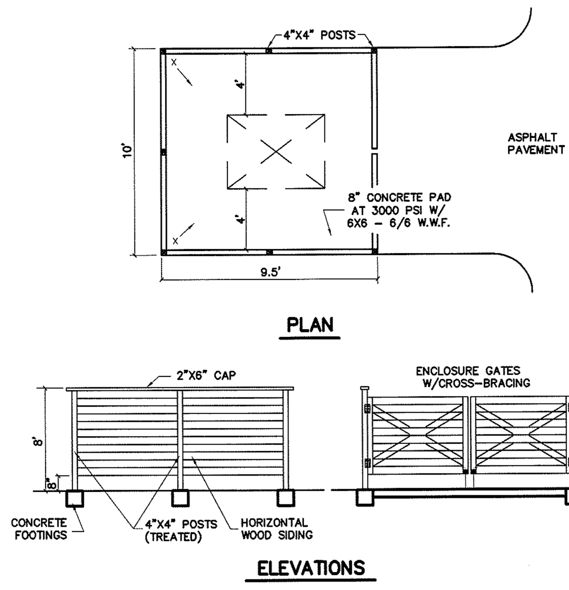


TYPICAL HANDICAPPED SIGN DETAIL
NTS

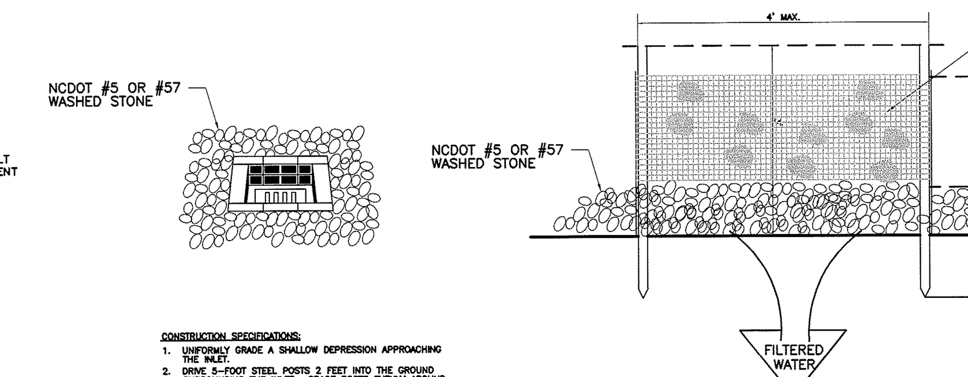


NOTES:
1. FENCE FABRIC SHALL BE A MIN. OF 32" IN WIDTH AND SHALL HAVE A MIN. OF SIX LINE WIRES WITH 12" STAY SPACING.
2. FABRIC SHALL BE FOR EROSION CONTROL AND MIN. OF 36" IN WIDTH. FABRIC SHALL BE FASTENED ADEQUATELY TO THE WIRE FABRIC AS DIRECTED BY THE ENGINEER.
3. STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

TEMPORARY SILT FENCE
NTS



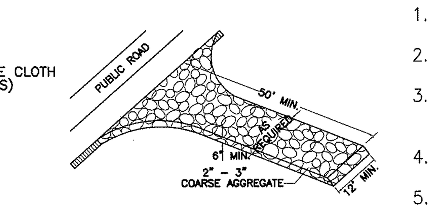
DUMPSTER PAD & ENCLOSURE DETAIL
NTS



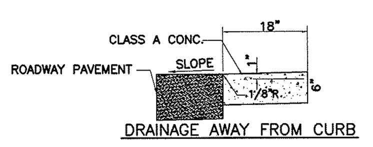
CONSTRUCTION SPECIFICATIONS:
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACINGA 2-FOOT FLAP OF 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 16 INCHES 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 STABILIZED IT WITH GROUNDCOVER.

MAINTENANCE:
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (½ 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. REPLACE STONE AS NEEDED.

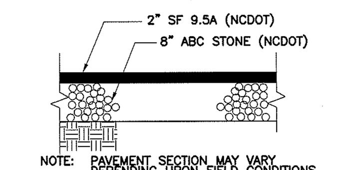
HARDWARE CLOTH AND GRAVEL INLET PROTECTION
NTS



TEMPORARY GRAVELED CONSTRUCTION ENTRANCE
NTS

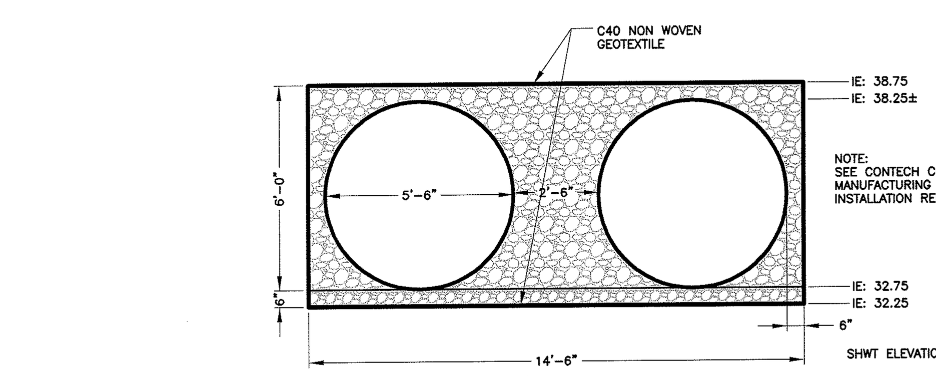


18" RIBBON CURB
NTS



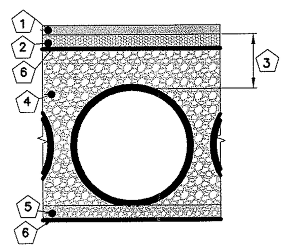
NOTE: PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE w/OWNER & GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

PAVEMENT SECTION
NTS



NOTE:
SEE CONTECH CONSTRUCTION PRODUCTS MANUFACTURING DETAILS FOR ADDITIONAL INSTALLATION REQUIREMENTS.

TRENCH #1 SECTION DETAIL
NTS



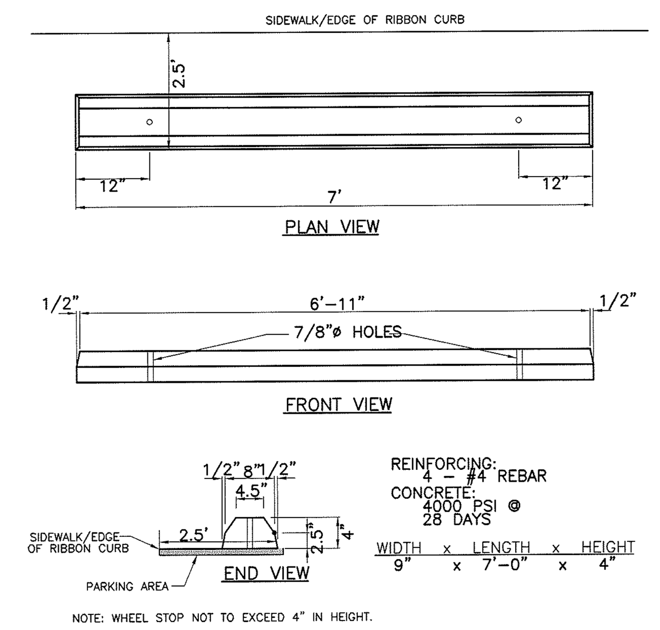
KEY
1.) RIGID OR FLEXIBLE PAVEMENT
2.) GRANULAR ROAD BASE
3.) 12" MIN. FOR DIAMETERS THROUGH 96" 18" MIN. FOR DIAMETERS FROM 102" AND LARGER MEASURED TO TOP OF RIGID OR BOTTOM OF FLEXIBLE PAVEMENT.
4.) FREE DRAINING ANGULAR WASHED STONE ⅜" MIN. PARTICLE SIZE. COMPACT TO MIN. 90% STANDARD DENSITY PER AASHTO T99.
5.) WASHED #57 STONE BEDDING, ROUGHLY SHAPED TO FIT THE BOTTOM OF PIPE, 6" IN DEPTH.
6.) CONTECH C-40 NON-WOVEN GEOTEXTILE REQUIRED, WRAPPING TRENCH ONLY.

FOUNDATION/BEDDING PREPARATION
PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, THE 6 INCHES OF A WELL-GRADED WASHED GRANULAR MATERIAL SHALL BE PLACED AS THE BEDDING.

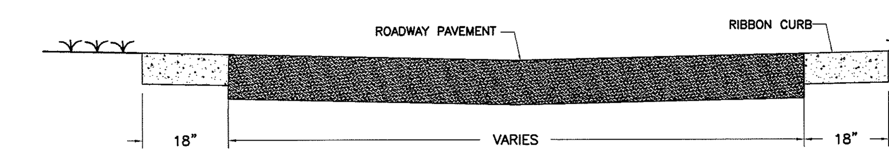
BACKFILL
FREE DRAINING ANGULAR WASHED STONE ⅜" MIN. PARTICLE SIZE. COMPACT TO MIN. 90% STANDARD DENSITY PER AASHTO T99 AS APPROVED BY THE ENGINEER (SEE INSTALLATION GUIDELINES). WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO LIFT (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS. REFER TO TYPICAL BACKFILL DETAIL FOR MATERIAL REQUIRED.

INFILTRATION TRENCH BACKFILL DETAIL
NTS



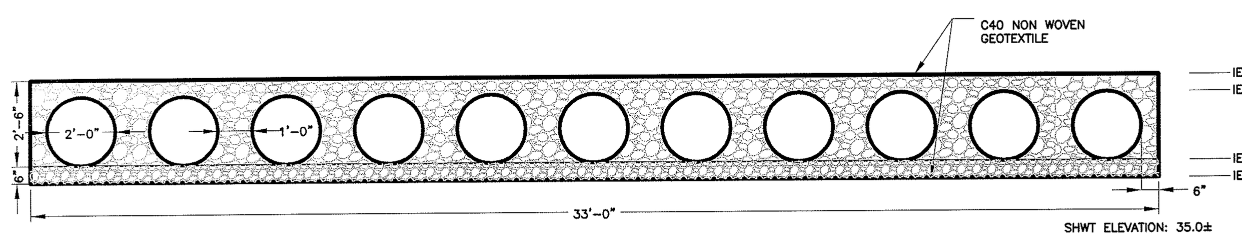
WHEEL STOP DETAIL
NTS



PAVEMENT CROSS-SECTION
NTS

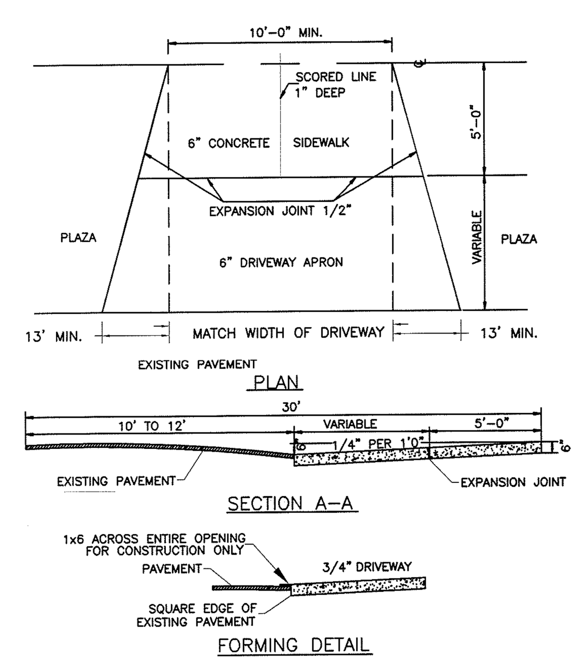
SITE AREA DESCRIPTION	STABILIZATION TIMEFRAME	STABILIZATION TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

NPDES GROUND STABILIZATION CRITERIA
NTS

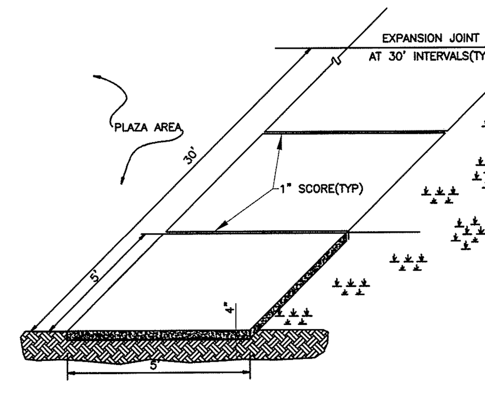


TRENCH #2 SECTION DETAIL
NTS

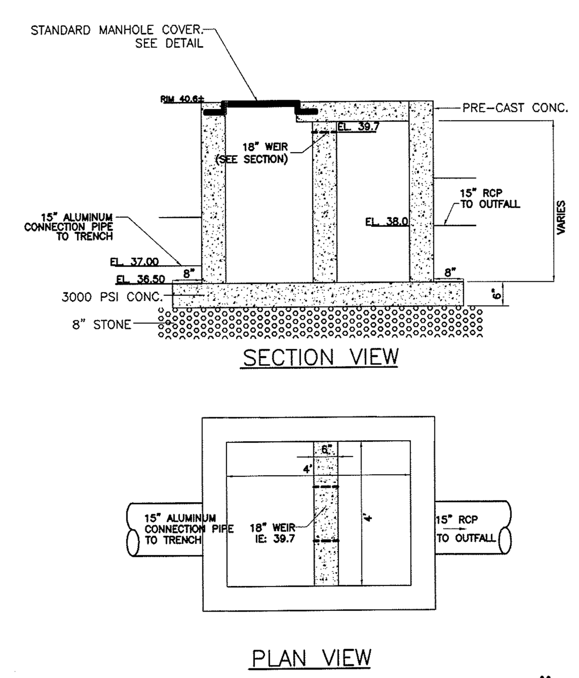
NOTE:
SEE CONTECH CONSTRUCTION PRODUCTS MANUFACTURING DETAILS FOR ADDITIONAL INSTALLATION REQUIREMENTS.



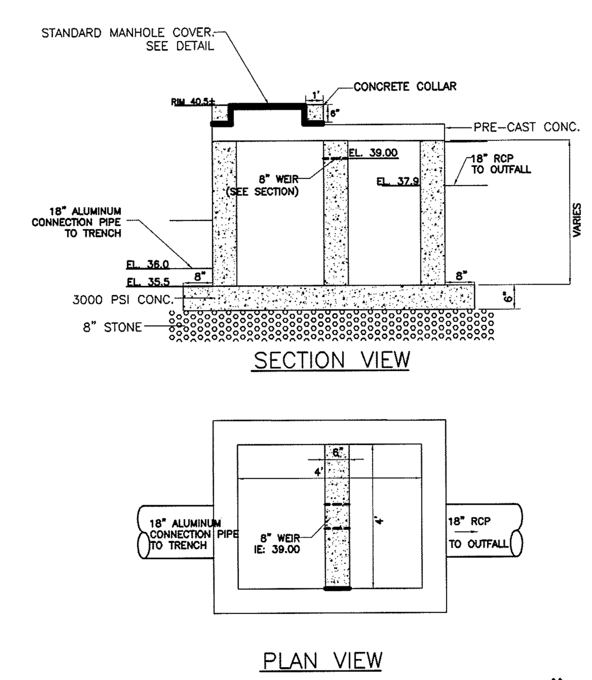
RESIDENTIAL DRIVEWAY STREETS WITH NO CURB
SD 8-05
NOT TO SCALE



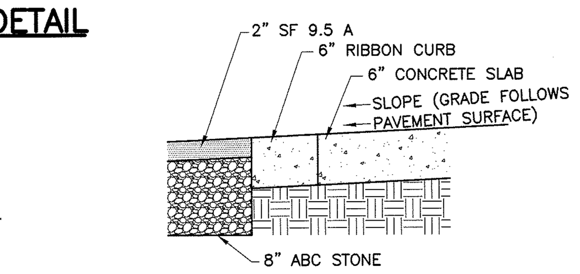
STANDARD SIDEWALK DETAIL
SD 8-15
NOT TO SCALE



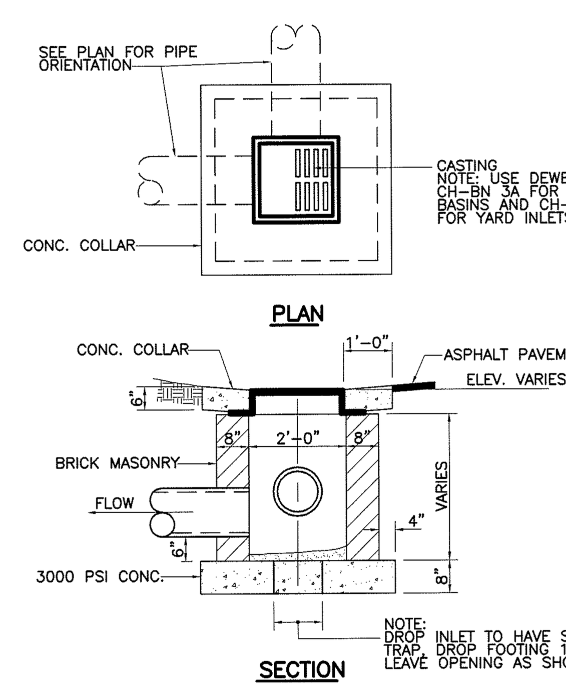
CONTROL STRUCTURE #2
NTS



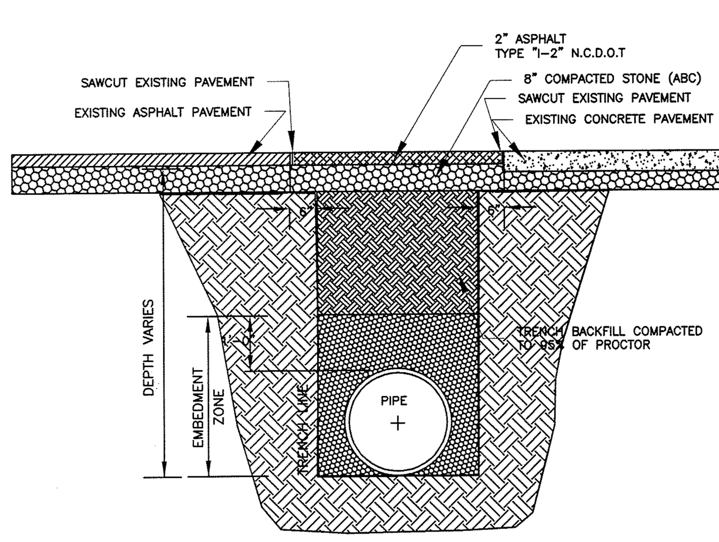
CONTROL STRUCTURE #1
NTS



CURB/DRIVEWAY SECTION
NTS

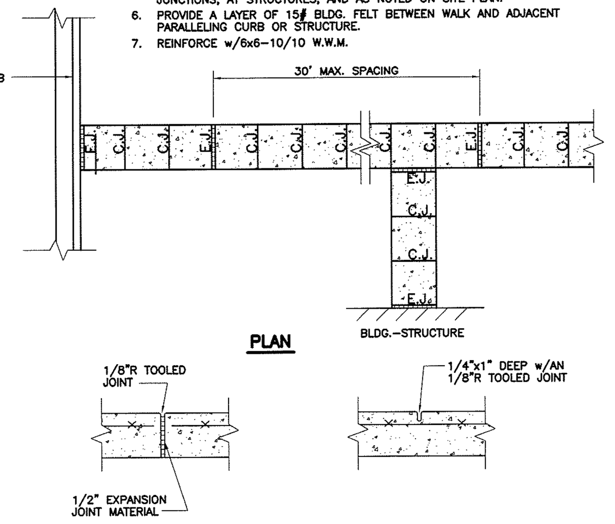


DROP INLET DETAIL
NTS

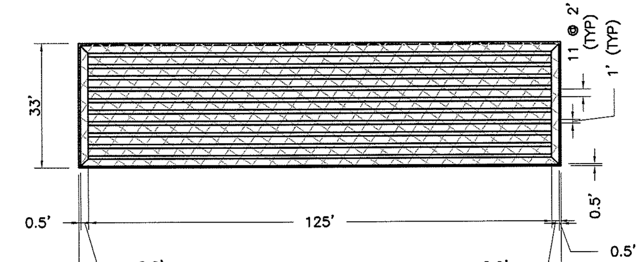


PAVEMENT REPAIR DETAIL
SD 1-16
NOT TO SCALE

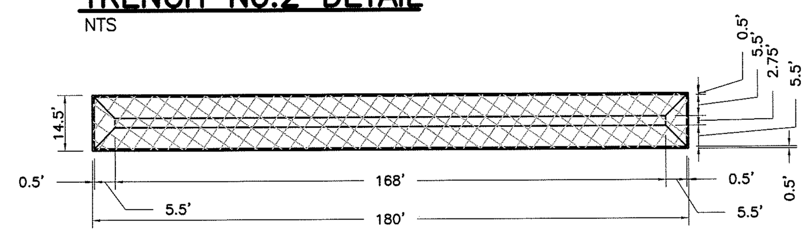
NOTES:
1. SIDEWALK THICKNESS SHALL BE 4" UNLESS NOTED OTHERWISE.
2. CONTRACTION JOINTS (C.J.) SPACE SAME AS SIDEWALK WIDTH.
3. THICKEN SIDEWALK TO 6" AT DRIVEWAYS.
4. THICKEN SIDEWALK TO 6" IN LAST 3' WHERE IT ABUTS PAVEMENT WITH NO CURB.
5. 1/2" EXPANSION JOINT (E.J.) REQUIRED AT 30' MAX. AT SIDEWALK JUNCTIONS, AT STRUCTURES, AND AS NOTED ON SITE PLAN.
6. PROVIDE A LAYER OF 15# BLDG. FELT BETWEEN WALK AND ADJACENT PARALLELING CURB OR STRUCTURE.
7. REINFORCE w/6x6-10/10 W.W.M.



SIDEWALK JOINT DETAILS
NTS

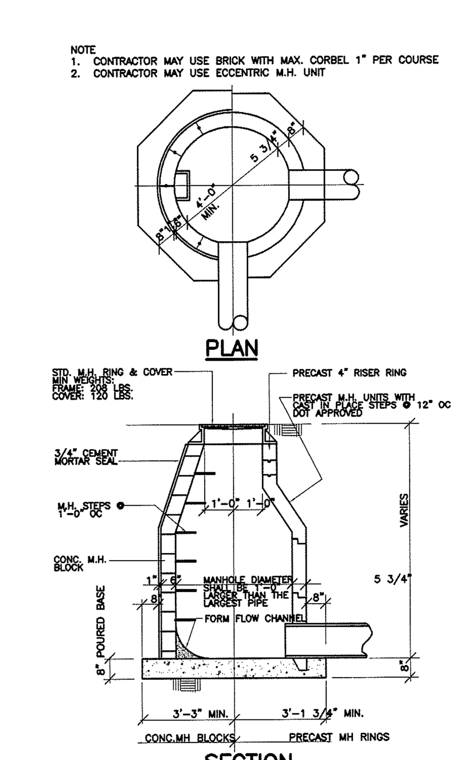


TRENCH No.2 DETAIL
NTS



TRENCH No.1 DETAIL
NTS

NOTE
1. CONTRACTOR MAY USE BRICK WITH MAX. CORBEL 1" PER COURSE
2. CONTRACTOR MAY USE ECCENTRIC M.H. UNIT



STORM DRAIN MANHOLE DETAIL
NTS

STORMWATER MANAGEMENT PLAN
APPROVED
CITY OF WILMINGTON
ENGINEERING DEPARTMENT
DATE ________ PERMIT # ________
SIGNED________________________

Approved Construction Plan	Name	Date
Planning		
Traffic		
Fire		

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

LATE WINTER & EARLY SPRING TEMPORARY GRASSING DETAIL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

SEEDING DATES:
Mountains – Above 2500 ft: Feb. 15–May 15
Below 2500 ft: Feb. 1–May 1
Piedmont – Jan. 1–May 1
Coastal Plain – Dec. 1–Apr. 15

SOIL AMENDMENTS
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

TEMPORARY SUMMER GRASSING DETAIL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUNDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

SEEDING NOTES
MOUNTAINS – MAY 15–AUG. 15
PIEDMONT – MAY 1–AUG. 15
COASTAL PLAN – APR. 15–AUG. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

TEMPORARY FALL GRASSING DETAIL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)
Rye (grain)	120

SEEDING NOTES
MOUNTAINS – AUG. 15–DEC. 15
COASTAL PLAN and PIEDMONT – AUG. 15–DEC 30

SOIL AMENDMENTS
FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

SITE WORK NOTES
1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIARIZED WITH EXISTING CONDITIONS BOTH ON AND IMMEDIATELY ADJACENT TO THE SITE.
2. CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE DESIGNATED TO REMAIN.
3. GRUBBING AND STRIPPING: CONTRACTOR SHALL RAKE AND REMOVE ROOTS, STUMPS, VEGETATION, DEBRIS, EXISTING STRUCTURES ABOVE AND BELOW GRADE, ORGANIC MATERIAL OR ANY OTHER UNSUITABLE MATERIAL WITHIN LIMITS OF CONSTRUCTION.
4. MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND THEIR GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.
5. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
6. FILL AND COMPACTION SHOULD COMPLY WITH GEOTECHNICAL REPORT.
7. THE CONTRACTOR SHALL NOTE THAT THE GRADING PLAN MAY NOT REPRESENT A BALANCED EARTHWORK CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT AND FILL QUANTITIES AND COMPLETE INSTALLATION TO SPECIFIED GRADES.
8. THE CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FROM AN OFF-SITE PROPERLY PERMITTED FACILITY AS REQUIRED.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. BEFORE COMMENCING ANY EXCAVATIONS IN OR ALONG ROADWAYS OR RIGHT-OF-WAYS, PUBLIC AREAS OR IN PRIVATE EASEMENTS, THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE PERSONNEL OF THEIR INTENT TO EXCAVATE, IN WRITING, NOT LESS THAN 10 DAYS PRIOR TO EXCAVATING.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE DISCONNECTION/ RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH APPROPRIATE PERSONNEL.
11. EXISTING SURVEYING PERFORMED BY GARY W. KEYES AND SUPPLIED BY THE OWNER.
12. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE. FURTHERMORE THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES OR QUESTIONS TO THE ENGINEER PRIOR TO INSTALLATION.
13. THE CONTRACTOR SHALL PROVIDE ANY AND ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK UNLESS OTHERWISE DIRECTED BY OWNER.
14. ALL PVC UTILITY MAINS SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER AT FINAL GRADE.
15. ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO MEET ALL LOCAL AND STATE CODES. METERS, TAPS, MATERIALS, WORKMANSHIP AND ALL FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH ALL REQUIREMENTS.
16. ALL PAVEMENT, BASE AND SUBGRADE SHALL CONFORM TO NCDOT STANDARDS INCLUDING WORKMANSHIP, MATERIALS AND EQUIPMENT. APPROPRIATE BARRICADES, SIGNS, LIGHTS OR OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH NCDOT TO MAINTAIN SAFETY AND TWO WAY TRAFFIC.
17. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION. ALL AREAS SHALL BE SLOPED TO DRAIN AWAY FROM BUILDINGS AT ALL TIMES.
18. CONCRETE STORM DRAINAGE PIPE SHALL BE CLASS III WITH RUBBER GASKETED JOINTS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
19. 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. REFLECTIVE MATERIAL MAY BE ADDED AT OWNER'S OPTION FOR NIGHT REFLECTING.
20. DUCTILE IRON SHALL BE CLASS 50.
21. CONCRETE FOR WALKS, CURBS AND DRIVES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS – AIR ENTRAINED.
22. FIELD TESTING SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY PAID FOR BY THE OWNER. FURTHER TESTING REQUIRED DUE TO A FAILED TEST WILL BE PAID FOR BY THE CONTRACTOR.

CONSTRUCTION SEQUENCE
1. NO CUT SLOPE OR FILL SLOPE SHALL EXCEED A RISE OR FALL OF ONE FOOT FOR EVERY RUN OF 3 FEET (1 VERTICAL TO 3 HORIZONTAL).
2. NO SEDIMENT WILL BE ALLOWED TO EXIT THE SITE. ALL EROSION SHALL BE CONTROLLED INCLUDING SIDE SLOPES DURING AND AFTER CONSTRUCTION.
3. INSTALL PRIMARY EROSION CONTROL MEASURES BEFORE BEGINNING CONSTRUCTION INCLUDING BUT NOT LIMITED TO GRAVELED CONSTRUCTION ENTRANCE, SILT FENCE, CHECK DAMS, ETC. INSTALL ALL SECONDARY EROSION CONTROL MEASURES AS SOON AS POSSIBLE AFTER BEGINNING CONSTRUCTION.
4. ALL EROSION CONTROL MEASURES TO BE INSPECTED AFTER EACH RAIN. SILT FENCE AND INLET PROTECTION ARE TO BE CLEANED WHEN 0.5 FEET OF SEDIMENT HAVE ACCUMULATED IN FRONT OF THE DEVICE OR WHEN THEY LEAK OR FAIL. SEDIMENT TRAPS ARE CLEANED OUT AS STATED OR WHEN HALF FULL.
5. IF APPLICABLE, CONSTRUCT PROPOSED RETENTION POND TO ACT AS A SEDIMENT BASIN DURING CONSTRUCTION. REMOVE ACCUMULATION OF SILT AS REQUIRED TO ALLOW PROPER FUNCTIONING. RESTORE POND TO DESIGN LEVELS AT THE COMPLETION OF CONSTRUCTION.
6. IF APPLICABLE, INSTALL DROP INLETS WITH INLET PROTECTION TO ACT AS SILT TRAPS DURING CONSTRUCTION. REMOVE ACCUMULATED SILT AS NEEDED TO PREVENT SILT FROM ENTERING STORM DRAIN PIPING.
7. A 4" LAYER OF TOPSOIL SHALL BE APPLIED TO ALL NEW AREAS TO BE GRASSED.
8. ALL DISTURBED AREAS WILL BE STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY. THIS INCLUDES SLOPES, SWALES, STOCKPILES AND OTHER UNSTABILIZED AREAS.
9. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PROJECT IS COMPLETE.
10. MORE STRINGENT MEASURES MAY BE REQUIRED TO HALT EROSION IF THOSE ON THIS PLAN PROVE TO BE LESS EFFECTIVE.
11. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION. ALL PERMANENT MEASURES SHALL BE WELL ESTABLISHED PRIOR TO PROJECT COMPLETION.

MAINTENANCE PLAN
1. ALL EROSION AND SEDIMENT CONTROL PRACTICES 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, 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 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 15 WORKING DAYS/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 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 DESIGNED 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 DISLODGED. 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 WEEKLY AND WILL BE KEPT CLEAN.
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 DISLODGED. BAFFLES WILL BE REPAIRED OR REPLACED IF THEY 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. 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.
9. FLOCCULATES WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECTION SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBID DISCHARGES DAILY.

FALL-WINTER PERMANENT GRASSING DETAIL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)
TALL FESCUE (BLEND OF TWO OR THREE IMPROVED VARIETIES)	200
RYE (GRAIN)	25

SEEDING DATES
JANUARY – APRIL
AUGUST – DECEMBER

SOIL AMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 3,000-5,000 lb/acre GROUND AGRICULTURAL LIMESTONE (USE THE LOWER RATE ON SANDY SOILS) AND 1,000 lb/acre 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 lb/acre GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKING WITH ASPHALT, ROVING, OR NETTING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
FERTILIZE ACCORDING TO SOIL TESTS OR APPLY 40 lb/acre NITROGEN IN JANUARY OR FEBRUARY, 40 lb IN SEPTEMBER AND 40 lb IN NOVEMBER, FROM A 12-4-8, 16-4-8, OR SIMILAR TURF FERTILIZER. AVOID FERTILIZER APPLICATIONS DURING WARM WEATHER, AS THIS INCREASES STAND LOSSES TO DISEASE. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY. MOW TO A HEIGHT OF 2.5-3.5 INCHES AS NEEDED.

SPRING-SUMMER PERMANENT GRASSING DETAIL

SEEDING MIXTURE

SPECIES	RATE (lb/acre)
PENSACOLA BAHIAGRASS	50
SERICEA LESPEDEZA	30
COMMON BERMUDA GRASS	10
GERMAN MILLET	10
TALL FESCUE	50

SEEDING NOTES
1. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA.
2. USE COMMON BERMUDA GRASS ONLY ON ISOLATED SITES WHERE IT CANNOT BECOME A PEST. BERMUDA GRASS MAY BE REPLACED WITH 5 lb/acre CENTIPEDE GRASS.

SEEDING DATES
APRIL 1 – JULY 15

SOIL AMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 3,000 lb/acre GROUND AGRICULTURE LIMESTONE AND 500 lb/acre 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 lb/acre GRAIN STRAWOR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR BY TACKING WITH ASPHALT, ROVING, OR NETTING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
REFERTILIZE THE FOLLOWING APRIL WITH 50 lb/acre NITROGEN. REPEAT AS GROWTH REQUIRES. MAY BE MOWED ONLY ONCE A YEAR. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND MOW AS OFTEN AS NEEDED.

REVISIONS

No./Date	Description	By
08-08-13	SW REVISIONS	BPD

DETAILS AND NOTES
LAKE PARK VILLAGE
4329 LAKE AVENUE
WILMINGTON, NORTH CAROLINA

TRIPP ENGINEERING, P.C.
419 Chestnut Street
Wilmington, North Carolina 28401
Phone 910-763-5100
Fax 910-763-5631

© 2012 TRIPP ENGINEERING, P.C. NC LICENSE No. C-1427

NORTH CAROLINA PROFESSIONAL SEAL 17374 ENGINEER PHILIP GREGORY TRIPP

8-1-13

DATE	08-01-13
DESIGN	PGT
DRAWN	EJW

C5

SHEET 5 OF 5

12034