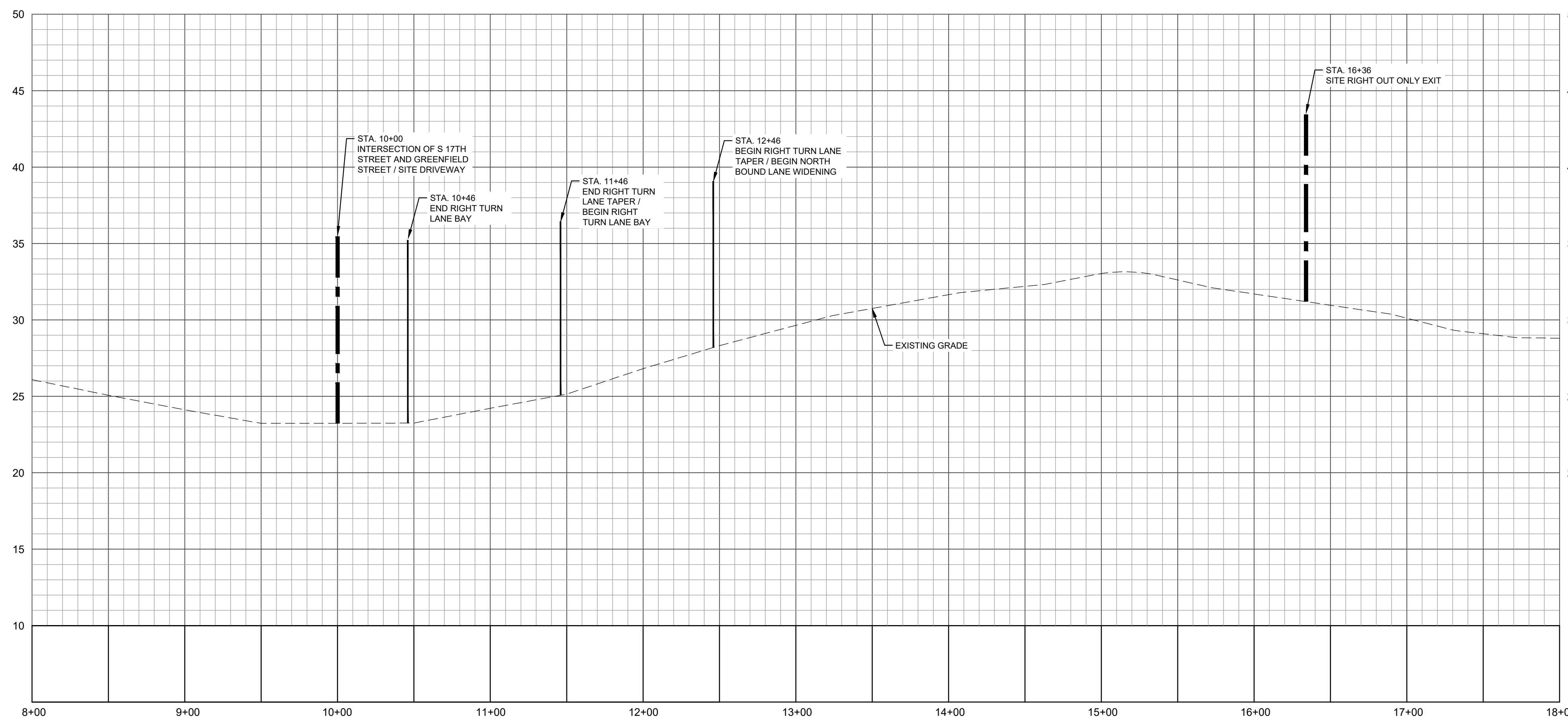


PLAN VIEW: S. 17TH STREET STA. 8+00-18+00
SCALE: 1"=50'



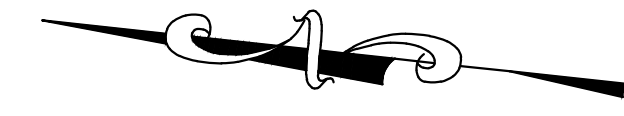
PROFILE VIEW: S. 17TH STREET STA. 8+00-18+00
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

PID: R05419-003-004-000
WILMINGTON SURGCARE INC
(5.89 AC) TR B SEVENTEENTH
ST PROPERTIES
M.B. 31, PG. 263
BK. 4238 PG. 1
OSB-1 ZONING

PID: R05415-003-005-000
JOHNSTON HOLDINGS LLC
TRACT 1 OF 2 THE WILMINGTON BOARD
OF REALTORS
M.B. 31, PG. 338
BK. 4210 PG. 5848
OSB-1 ZONING

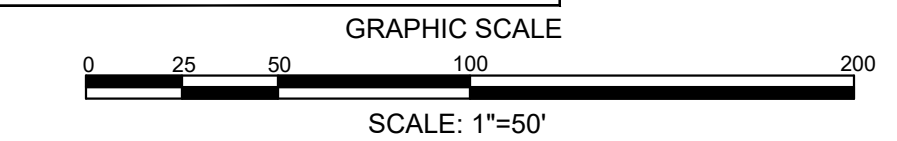
PID: R05415-011-001-001
KEMAS HOLDINGS LLC
TRACT 2 THE WILMINGTON BOARD
OF REALTORS
M.B. 31, PG. 338
BK. 4210 PG. 5848
OSB-1 ZONING

PID: R05418-002-001-000
NEW HANOVER COUNTY
BLOCKS C&G FRENCH PROPERTY
M.B. 4, PG. 85
BK. 2483 PG. 48
OSB-1 ZONING



CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

811
Know what's below.
Call before you dig.



NOT RELEASED FOR CONSTRUCTION

OFFSITE TRAFFIC IMPROVEMENTS
GEOMETRIC PLAN
17TH STREET MIXED-USE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS:
CONCEPTUAL LAYOUT: _____
PRELIMINARY LAYOUT: _____
RELEASED FOR CONST: _____

DRAWING INFORMATION:
DATE: 03/18/20
SCALE: 1"=50'
DESIGNED: DDF
DRAWN: DDF
CHECKED: DDF

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
040501
DA NIEL

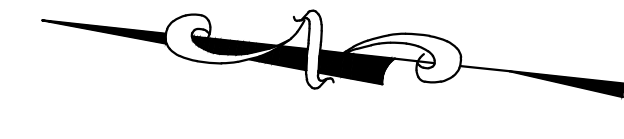
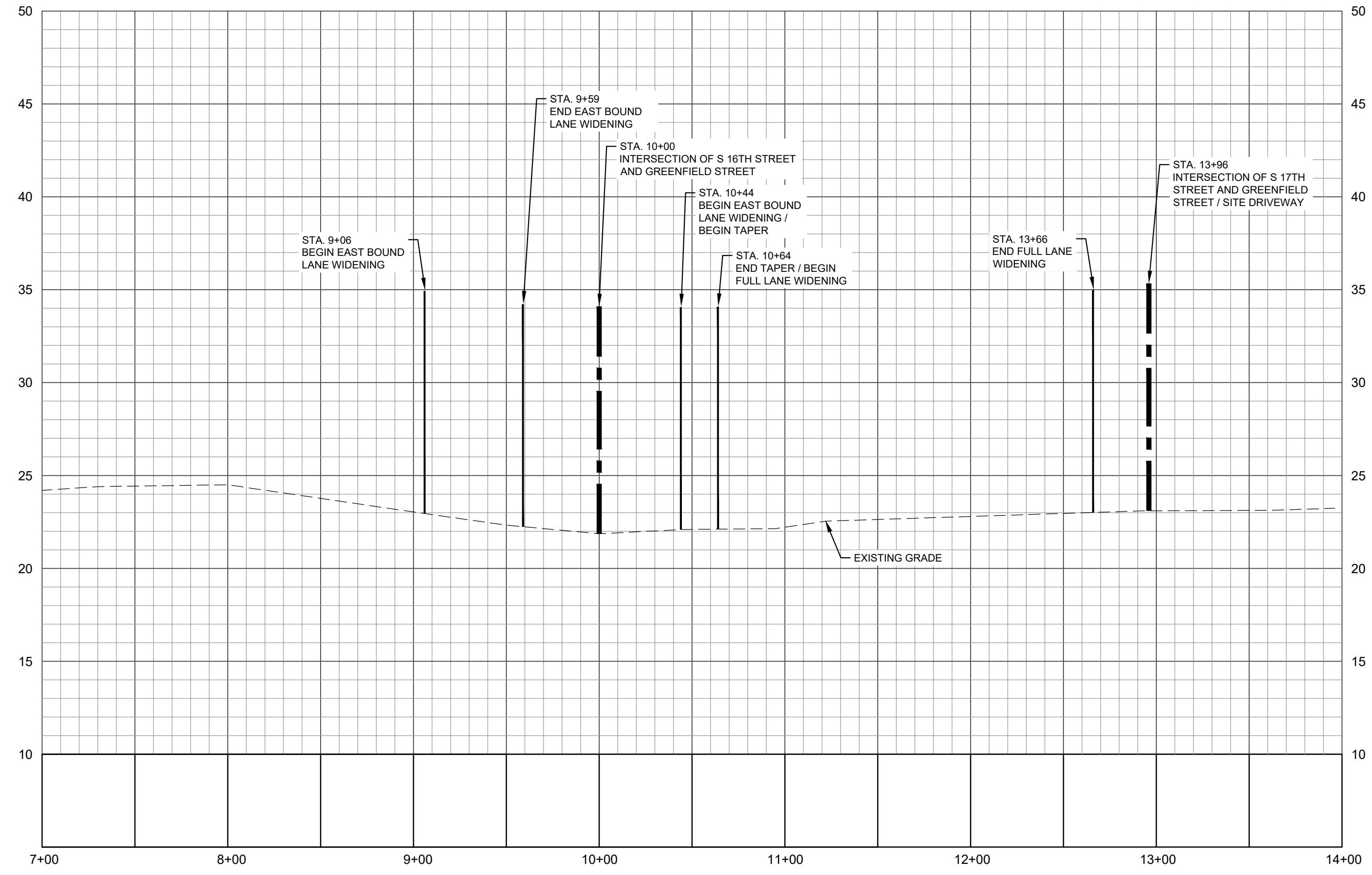
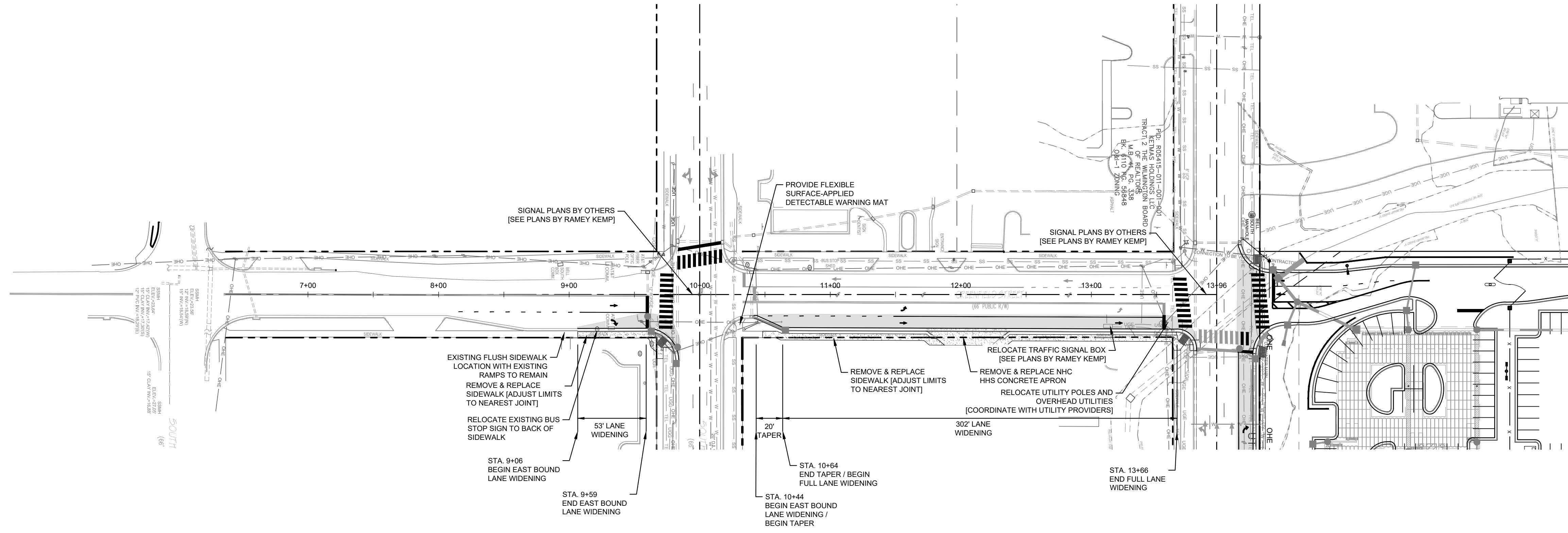
C6.00

PEI JOB#: 19331.PE

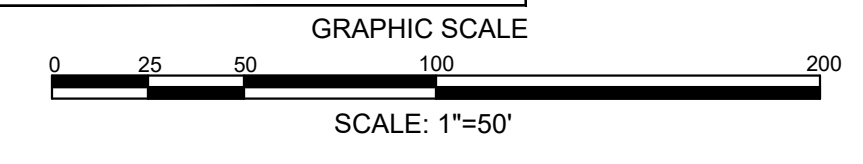
REVISIONS:
1. PER NCDOT & CITY COMMENTS

CLIENT INFORMATION:
DPI Residential, LLC
1539 TIPPAH PARK CT.
CHARLOTTE, NC 28205

PARAMOUNT
ENGINEERING INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6766 (F)
NC License #: C-2846



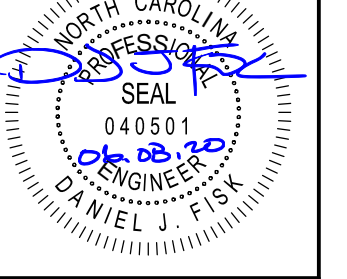
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

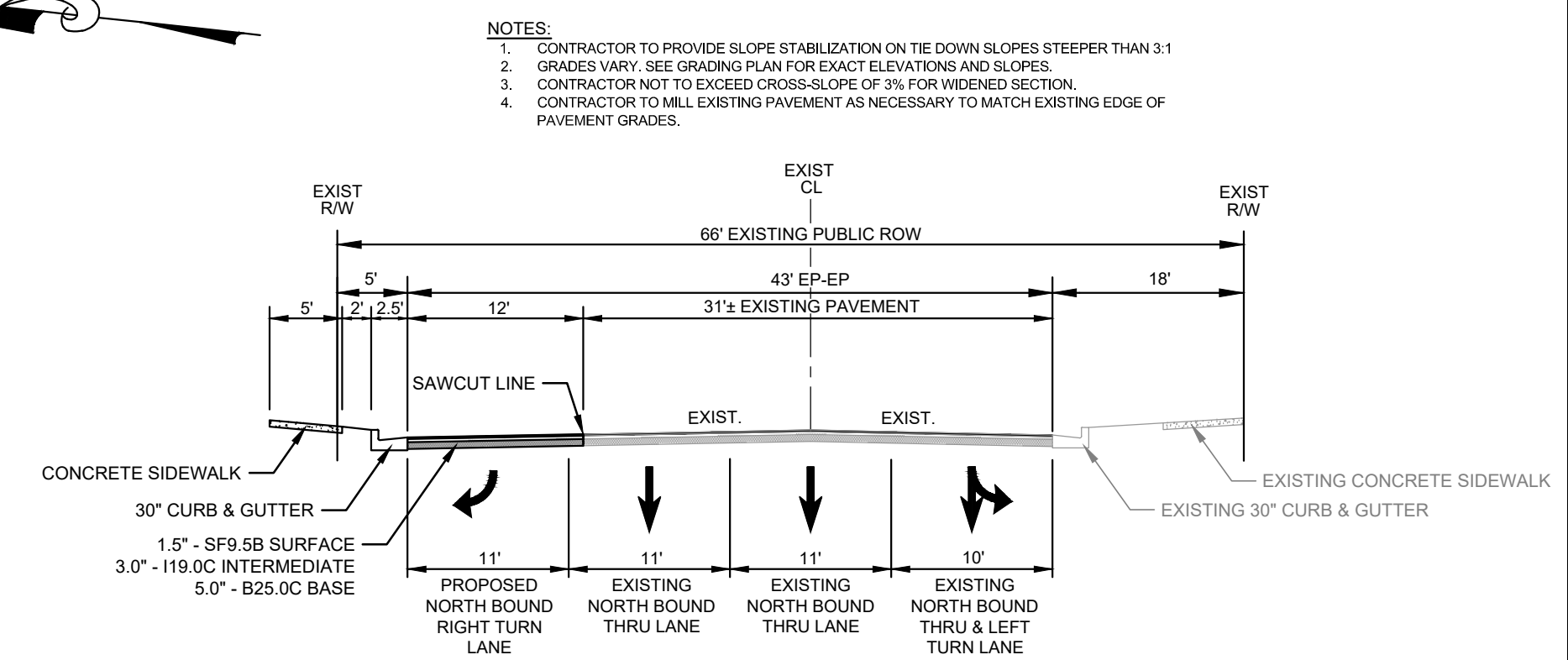
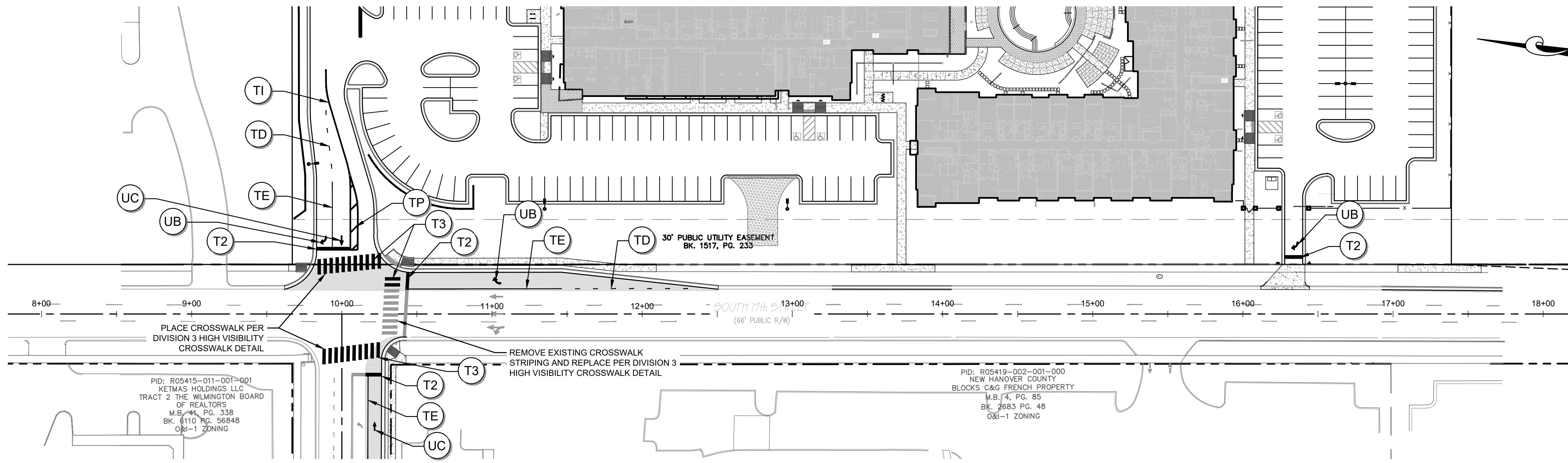


For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

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

NOT RELEASED FOR CONSTRUCTION

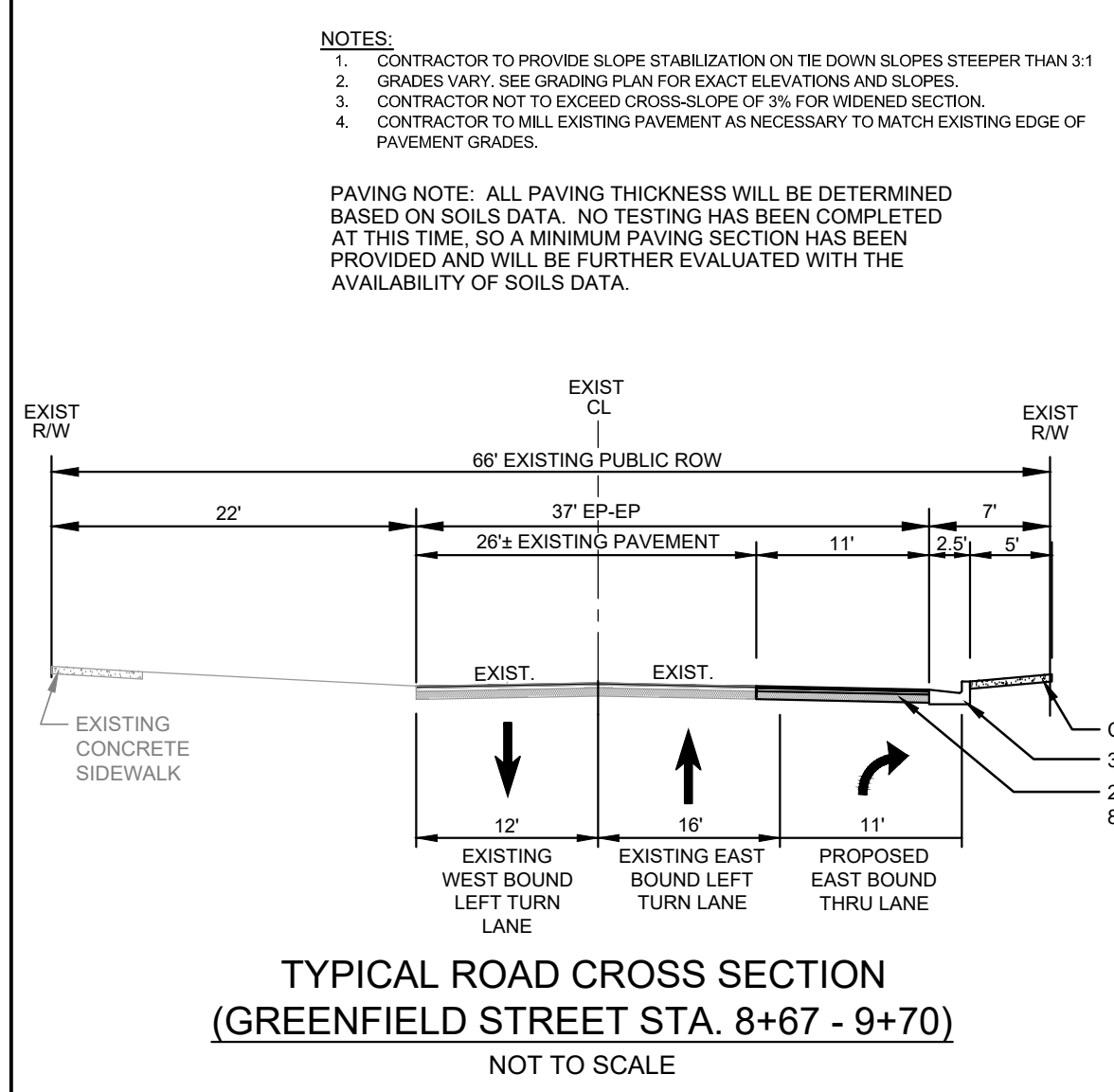
REVISIONS: 1. PER MCDOT & CITY COMMENTS									
PARAMOUNT ENGINEERING 122 Cinema Drive Wilmington, North Carolina 28403 (910) 791-6707 (O) (910) 791-6766 (F) NC License #: C-2846									
OFFSITE TRAFFIC IMPROVEMENTS GEOMETRIC PLAN 17TH STREET MIXED-USE CITY OF WILMINGTON NORTH CAROLINA									
PROJECT STATUS CONCEPTUAL LAYOUT: _____ PRELIMINARY LAYOUT: _____ RELEASED FOR CONST: _____		DRAWING INFORMATION DATE: 03/18/20 1" DWF 1" DWF 1" DWF DESIGNED: _____ DRAWN: _____ CHECKED: _____		SEAL 		PEI JOB#: 19331.PE		C6.01	



NOTES:
 1. CONTRACTOR TO PROVIDE SLOPE STABILIZATION ON THE DOWN SLOPES STEEPER THAN 3:1
 2. GRADES VARY. SEE GRADING PLAN FOR EXACT ELEVATIONS AND SLOPES.
 3. CONTRACTOR NOT TO EXCEED CROSS-SLOPE OF 3% FOR WIDENED SECTION.
 4. CONTRACTOR TO MILL EXISTING PAVEMENT AS NECESSARY TO MATCH EXISTING EDGE OF PAVEMENT GRADES.

PAVING NOTE: ALL PAVING THICKNESS WILL BE DETERMINED BASED ON SOILS DATA. NO TESTING HAS BEEN COMPLETED AT THIS TIME. SO A MINIMUM PAVING SECTION HAS BEEN PROVIDED AND WILL BE FURTHER EVALUATED WITH THE AVAILABILITY OF SOILS DATA.

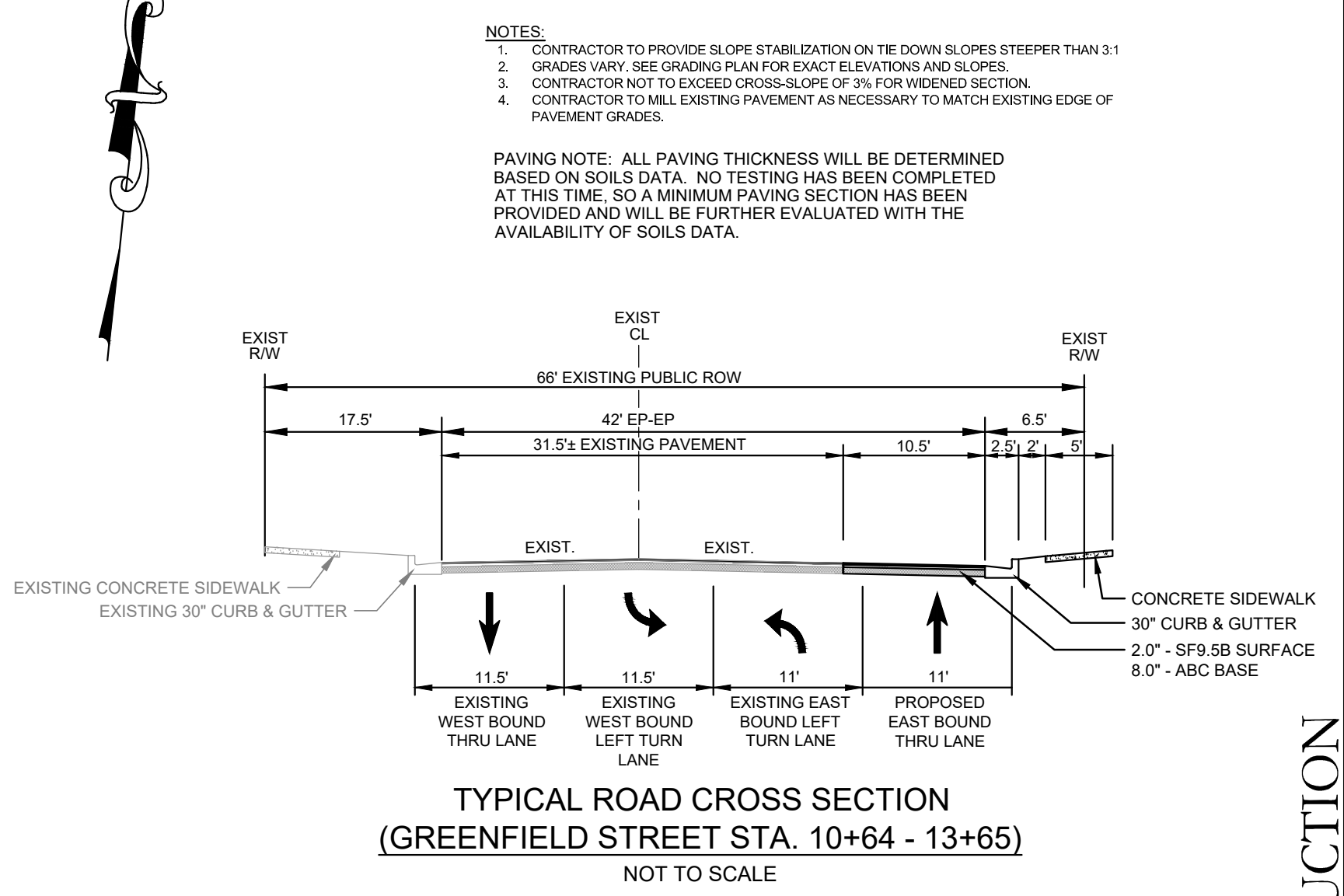
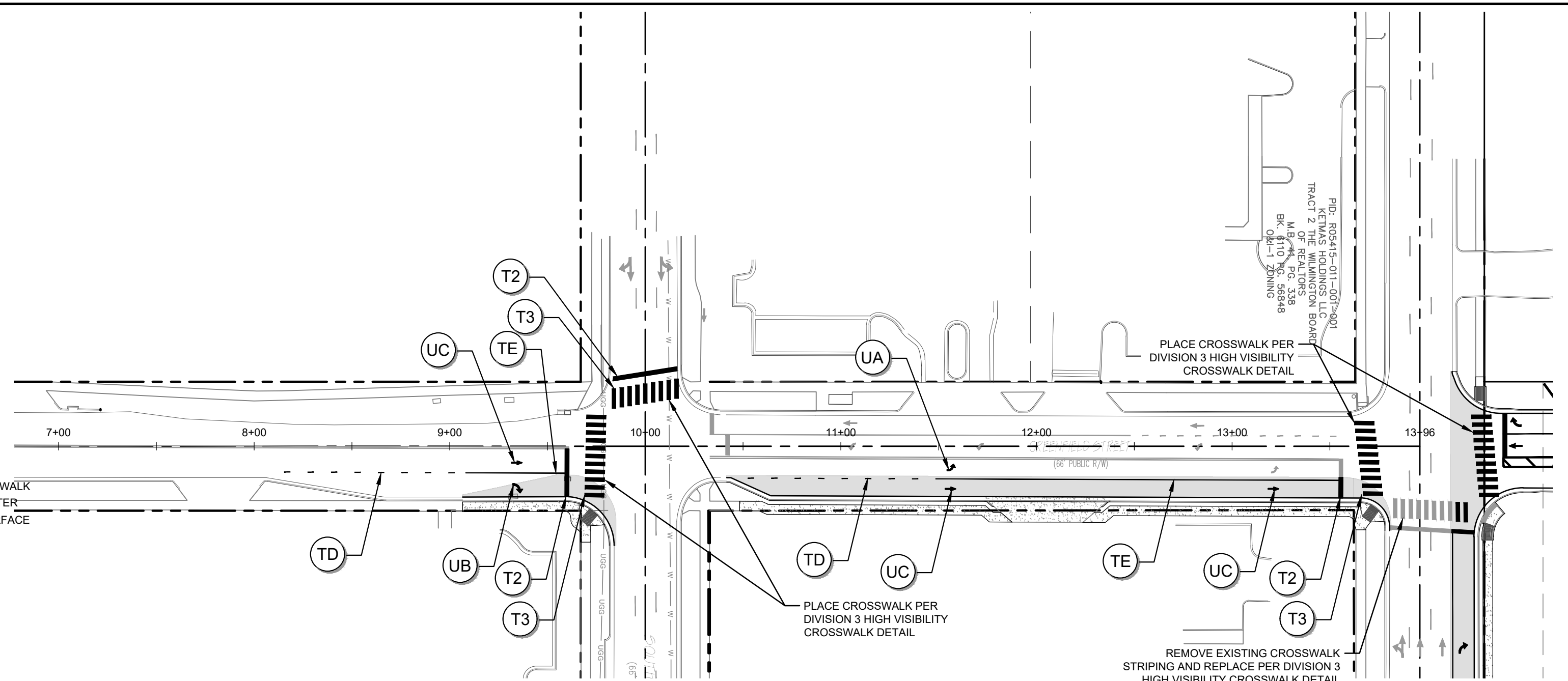
TYPICAL ROAD CROSS SECTION
 (S. 17TH STREET STA. 10+46 - 11+46)
 NOT TO SCALE



NOTES:
 1. CONTRACTOR TO PROVIDE SLOPE STABILIZATION ON THE DOWN SLOPES STEEPER THAN 3:1
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PAVING NOTE: ALL PAVING THICKNESS WILL BE DETERMINED BASED ON SOILS DATA. NO TESTING HAS BEEN COMPLETED AT THIS TIME. SO A MINIMUM PAVING SECTION HAS BEEN PROVIDED AND WILL BE FURTHER EVALUATED WITH THE AVAILABILITY OF SOILS DATA.

TYPICAL ROAD CROSS SECTION
 (GREENFIELD STREET STA. 8+67 - 9+70)
 NOT TO SCALE



NOTES:
 1. CONTRACTOR TO PROVIDE SLOPE STABILIZATION ON THE DOWN SLOPES STEEPER THAN 3:1
 2. GRADES VARY. SEE GRADING PLAN FOR EXACT ELEVATIONS AND SLOPES.
 3. CONTRACTOR NOT TO EXCEED CROSS-SLOPE OF 3% FOR WIDENED SECTION.
 4. CONTRACTOR TO MILL EXISTING PAVEMENT AS NECESSARY TO MATCH EXISTING EDGE OF PAVEMENT GRADES.

PAVING NOTE: ALL PAVING THICKNESS WILL BE DETERMINED BASED ON SOILS DATA. NO TESTING HAS BEEN COMPLETED AT THIS TIME. SO A MINIMUM PAVING SECTION HAS BEEN PROVIDED AND WILL BE FURTHER EVALUATED WITH THE AVAILABILITY OF SOILS DATA.

TYPICAL ROAD CROSS SECTION
 (GREENFIELD STREET STA. 10+64 - 13+65)
 NOT TO SCALE

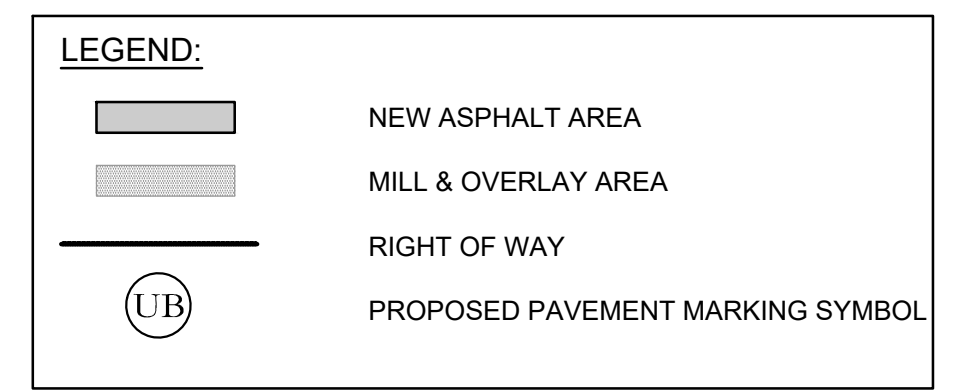
- NOTES:**
- SNOW PLOWABLE PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH NCDOT'S STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES 2018 AND THE ROADWAY STANDARD DRAWINGS. CURB MOUNTED REFLECTORS ARE TO BE INSTALLED ON TRAFFIC ISLANDS.
 - PAVEMENT MARKINGS SHALL BE THE RESPONSIBILITY OF THE PERMITTEE. THE PERMITTEE SHALL HAVE THE PAVEMENT MARKINGS PRE-MARKED, INSPECTED, AND APPROVED BY NCDOT PERSONNEL PRIOR TO THE PLACEMENT OF FINAL PAVEMENT MARKINGS. CONTACT TRAFFIC SERVICES AT (910)341-0300 FOR PRE-MARKING INSPECTIONS OR FIELD CHANGES. CENTERLINE PAVEMENT MARKINGS SHALL BE INSTALLED THE SAME DAY RESURFACING IS ACCOMPLISHED. ALL OTHER PAVEMENT MARKINGS SHALL BE COMPLETED WITHIN 5 DAYS OF RESURFACING. PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND MEET THE NCDOT'S STANDARD SPECIFICATION FOR ROADS AND STRUCTURES AND NCDOT ROADWAY STANDARD DRAWINGS.
 - NEW ASPHALT AREA = 811 SY [380 SY 17TH STREET | 431 SY GREENFIELD STREET]
 - FOR ALL WORK WITHIN NCDOT RIGHT OF WAY, CONTRACTOR SHALL REFER TO NCDOT STANDARD DRAWINGS, LATEST VERSION, FOR STANDARD DETAILS. SOME OF THESE DETAILS ARE LOCATED ON THESE PLANS FOR CONVENIENCE.
 - PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH NCDOT STANDARD DRAWINGS 1205.01 AND 1205.04.
 - SITE CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS FOR ANY TEMPORARY OR PERMANENT UTILITY RELOCATION.
 - SITE CONTRACTOR SHALL COORDINATE WITH OWNERS OF EXISTING MAILBOX'S TO BE RELOCATED.
 - EXISTING DRIVEWAY CULVERTS SHALL REMAIN WHERE SHOWN ON THIS PLAN.

PAVEMENT MARKING LEGEND:
 CONTRACTOR SHALL REFER TO NCDOT STANDARD DETAIL #1205.01 FOR PAVEMENT MARKINGS

SYMBOL	DESCRIPTION	PAVEMENT MARKINGS			
TQ	WHITE CROSSWALK LINE	THERMOPLASTIC (8", 90MILS)	0 LF	TOTAL	0 LF
TD	3 FT - 9 FT WHITE MINISKIP WHITE SOLID LANE LINE YELLOW DOUBLE CENTER LINE	THERMOPLASTIC (4", 90MILS)	81 LF	TOTAL	611 LF
TE		THERMOPLASTIC (4", 90MILS)	405 LF		
TI		THERMOPLASTIC (4", 90MILS)	125 LF		
TP	YELLOW DIAGONAL	THERMOPLASTIC (8", 90MILS)	25 LF	TOTAL	25 LF
T2	WHITE STOPBAR WHITE CROSSWALK LINE	THERMOPLASTIC (24", 90MILS)	104 LF	TOTAL	614 LF
T3		THERMOPLASTIC (24", 90MILS)	510 LF		
UA	LEFT TURN ARROW	THERMOPLASTIC THICK SYMBOLS (90MILS)	1 EA	TOTAL	9 EA
UB	RIGHT TURN ARROW	THERMOPLASTIC THICK SYMBOLS (90MILS)	4 EA		
UC	STRAIGHT ARROW	THERMOPLASTIC THICK SYMBOLS (90MILS)	4 EA		

- COORDINATION NOTES:**
- THE CONTRACTOR IS REQUIRED TO OBTAIN ANY/ALL PERMITS REQUIRED FOR CONSTRUCTION OF THESE PLANS.
 - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND WITH CITY OF WILMINGTON, NEW HANOVER COUNTY, NCDOT, AND THE STATE OF NORTH CAROLINA.
 - THE CONTRACTOR IS TO ESTABLISH AND CHECK ALL HORIZONTAL AND VERTICAL CONTROLS TO BE USED WITH THE PROJECT. IN ADDITION, THE CONTRACTOR IS TO COMPUTE THE LAYOUT OF THE ENTIRE SITE PLAN IN ADVANCE OF BEGINNING ANY WORK ASSOCIATED WITH THE SUBJECT PLANS. CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR TO PERFORM SITE IMPROVEMENT STAKEOUT(S).
 - ANYTIME WORK IS PERFORMED OFFSITE OR WITHIN AN EXISTING EASEMENT, THE CONTRACTOR IS TO NOTIFY THE HOLDER OF SAID EASEMENT AS TO THE NATURE OF PROPOSED WORK, AND TO FOLLOW ANY GUIDELINES OR STANDARDS WHICH ARE ASSOCIATED WITH OR REFERENCED IN THE RECORDED EASEMENT.

- TRAFFIC NOTES:**
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY & FOR DRIVEWAY(S) ARE TO BE THERMOPLASTIC & MEET NCDOT 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.
 - ALL TRAFFIC CONTROL SIGNS AND MARKINGS NOT WITHIN THE PUBLIC RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 - ANY OPEN CUTTING OF A NCDOT STREET REQUIRES AN ENCROACHMENT PERMIT. IN CERTAIN CASES, AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
 - ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.



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 Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Service • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

811
 Know what's below.
 Call before you dig.

GRAPHIC SCALE
 0 25 50 100 200
 SCALE: 1"=50'

NOT RELEASED FOR CONSTRUCTION

REVISIONS:
 1. PER NCDOT & CITY COMMENTS

CLIENT INFORMATION:
DJI Residential, LLC
 1539 TIPPAH PARK CT.
 CHARLOTTE, NC 28205

PARAMOUNT ENGINEERING
 122 Cinema Drive
 Wilmington, North Carolina 28403
 (910) 791-6707 (O) (910) 791-6766 (F)
 NC License #: C-2846

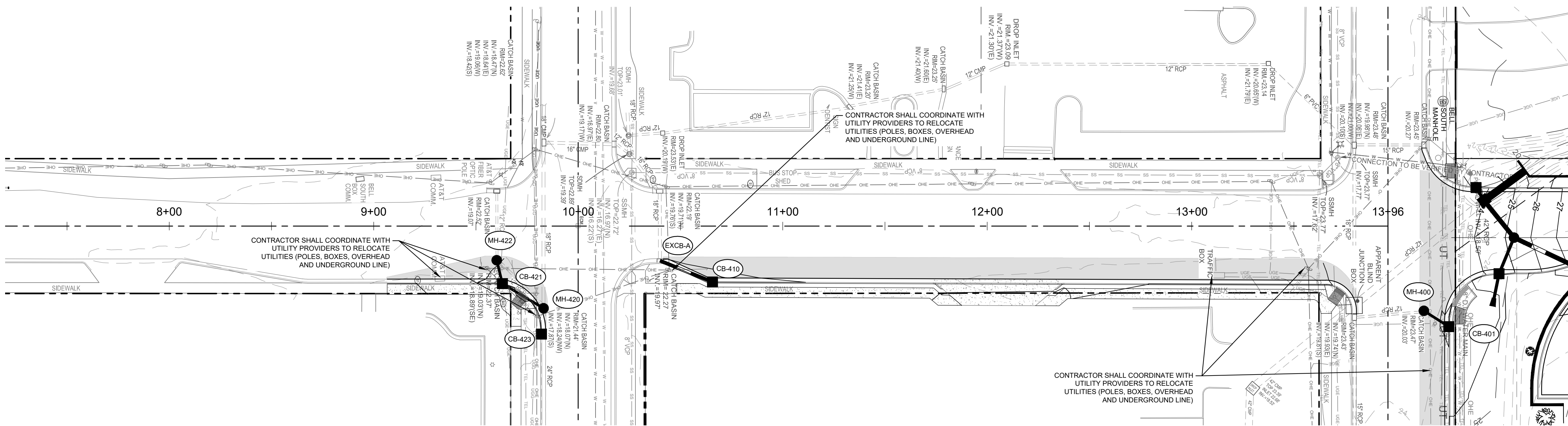
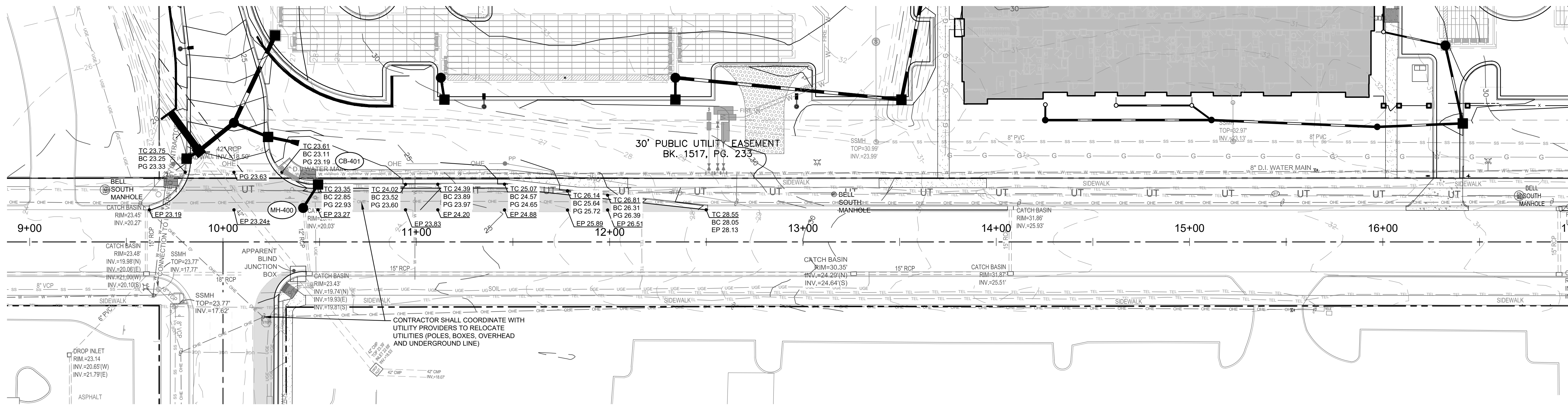
OFFSITE TRAFFIC IMPROVEMENTS STRIPING PLAN
 17TH STREET MIXED-USE
 CITY OF WILMINGTON
 NORTH CAROLINA

PROJECT STATUS:
 CONCEPTUAL LAYOUT: _____
 PRELIMINARY LAYOUT: _____
 RELEASED FOR CONST: _____

DRAWING INFORMATION:
 DATE: 03/18/20
 TIME: 1:00 PM
 DRAWN: DLF
 CHECKED: DLF

SEAL

C6.10
 PEI JOB#: 19331.PE



NOTES:

1. REFER TO GENERAL NOTES SHEET FOR ALL NOTES INCLUDING EROSION CONTROL & SEEDING.
2. CONTRACTOR TO FIELD VERIFY ALL EXISTING TIE IN GRADES PRIOR TO CONSTRUCTION.
3. ALL STEEL SHALL BE MADE IN AMERICA.

LEGEND:

- 25.11 PROPOSED/EXISTING SPOT ELEVATION
- LOD PROPOSED LIMITS OF DISTURBANCE
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED DRAINAGE INLET
- PROPOSED DRAINAGE PIPE
- NEW ASPHALT AREA
- RIGHT OF WAY

NOTATION:

- CB = CATCH BASIN [NCDOT STD. 840.02 | 840.03]
- DI = DROP INLET (TOP OF GRATE) [NCDOT STD. 840.16 | 840.46]
- MH = STORM DRAIN MANHOLE (RIM)
- INV = STORM PIPE INVERT
- FES = FLARED END SECTION
- EG = EXISTING GRADE
- EP = PROPOSED EDGE OF PAVEMENT

STORM SCHEDULE:

Upstream Node	Downstream Node	Diameter (In)	Upstream Invert	Downstream Invert	Pipe Length (ft)	Slope (%)	Upstream Rim Elev	Downstream Rim Elev	Pipe Material
CB-401	MH-400	12	19.81	19.77	14	0.30	22.85	23.20	RCP III
CB-410	EXCB-A	18	19.79	19.71	28	0.30	21.83	21.93	RCP III
CB-421	MH-420	12	18.21	17.98	23	1.00	21.67	21.18	RCP III
MH-422	CB-421	12	18.33	18.21	12	1.00	22.11	21.67	RCP III

STORM STRUCTURE NOTES:

1. MH-400 - CONVERT EXISTING CATCH BASIN TO MANHOLE. CONTRACTOR SHALL EVALUATE STRUCTURAL STABILITY OF BOX AND REPLACE AS NEEDED.
2. MH-420 - CONVERT EXISTING CATCH BASIN TO MANHOLE. CONTRACTOR SHALL EVALUATE STRUCTURAL STABILITY OF BOX AND REPLACE AS NEEDED.
3. MH-422 - CONVERT EXISTING CATCH BASIN TO MANHOLE. CONTRACTOR SHALL EVALUATE STRUCTURAL STABILITY OF BOX AND REPLACE AS NEEDED.
4. CB-423 - CONTRACTOR SHALL CUT IN PROPOSED CATCH BASIN AND TIE TO EXISTING STORM PIPE.

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 Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

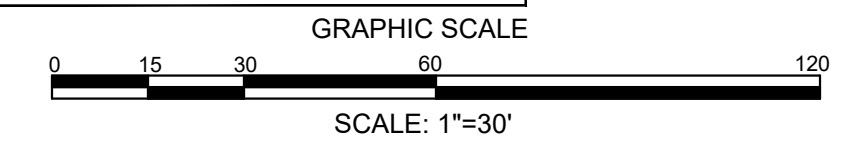
Fire _____

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

811
Know what's below.
Call before you dig.



NOT RELEASED FOR CONSTRUCTION

OFFSITE TRAFFIC IMPROVEMENTS
GRADING & DRAINAGE PLAN

17TH STREET MIXED-USE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS

CONCEPTUAL LAYOUT: _____
PRELIMINARY LAYOUT: _____
RELEASED FOR CONST: _____

DRAWING INFORMATION

DATE: 03/18/20
DRAWN BY: DDF
DESIGNED BY: DDF
CHECKED BY: DDF

SEAL

C6.20

PEI JOB#: 19331.PE

CLIENT INFORMATION:

PARAMOUNT ENGINEERING
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6766 (F)
NC License #: C-2846

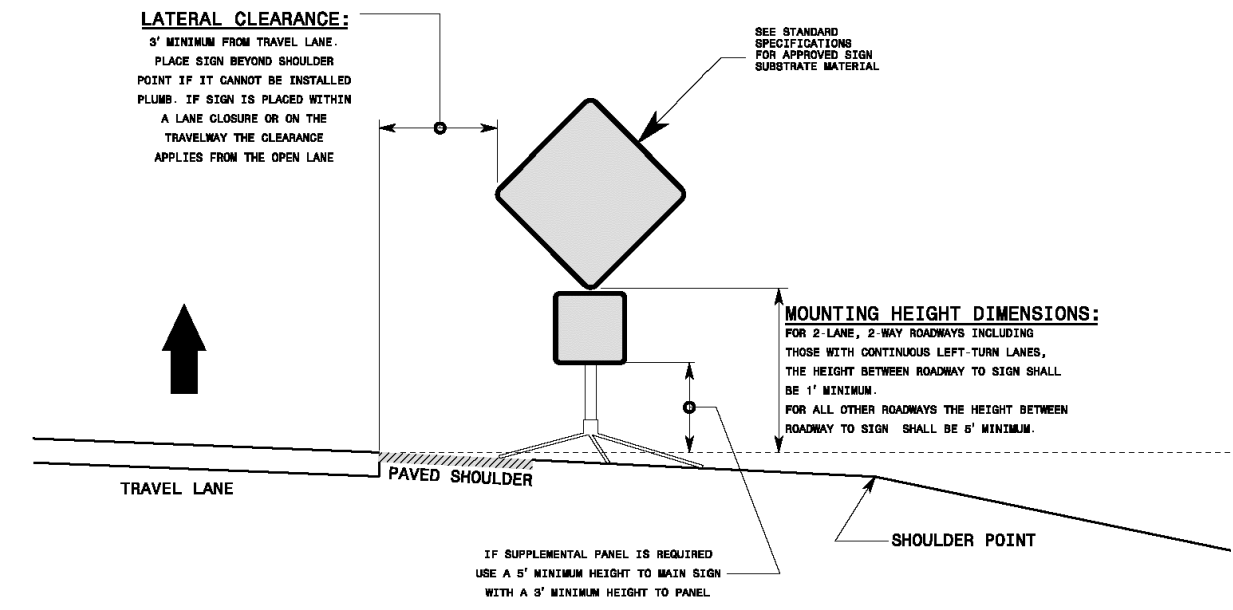
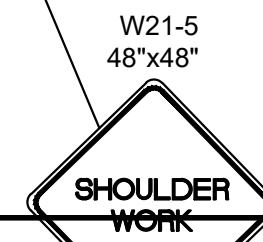
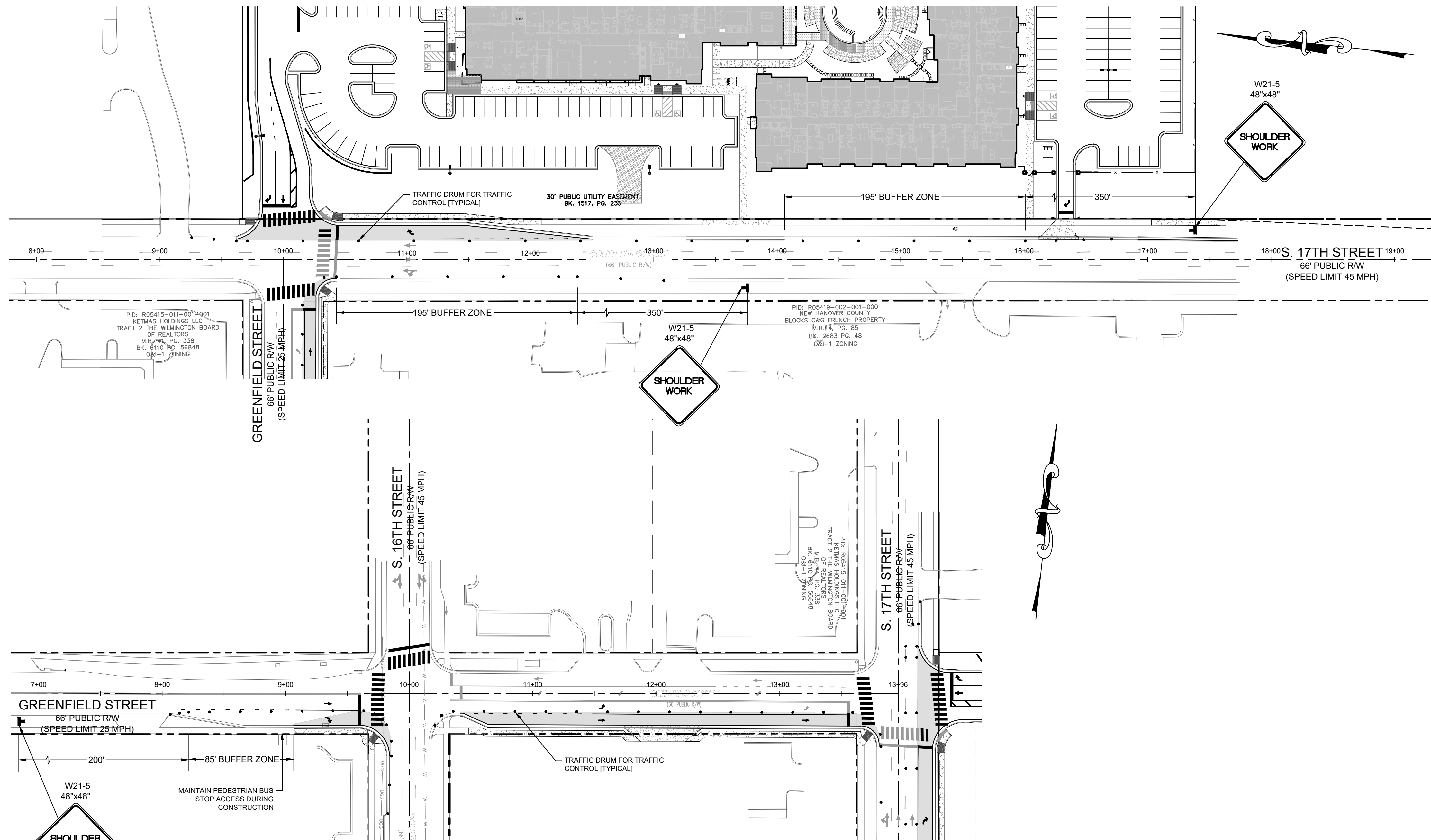
CLIENT INFORMATION:

DJ Residential, LLC
1539 TIPPAH PARK CT.
CHARLOTTE, NC 28205

REVISIONS:

NO.	DATE	DESCRIPTION
1.	PER NCDOT & CITY COMMENTS	

06/08/20



LATERAL CLEARANCE:
IF SIGNING FROM TRAVEL LANE:
PLACE SIGN WITHIN SHOULDER
POINT IF IT CANNOT BE INSTALLED
FLUSH TO ROAD TO MAINTAIN WIDTH.
A LANE CLOSURE OR ON THE
TRAVELWAY THE CLEARANCE
APPLIES FROM THE OPEN LANE.

MOUNTING HEIGHT DIMENSIONS:
FOR 2 LANE, 2 WAY ROADWAYS: CENTERLINE
FROM RIGHT OUTSIDE EDGE TO SIGN SHALL
BE 10' MINIMUM.
FOR ALL OTHER ROADWAYS THE HEIGHT BETWEEN
SHOULDER TO SIGN SHALL BE 4' MINIMUM.

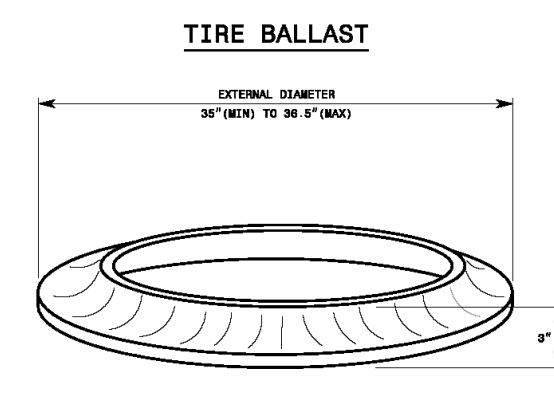
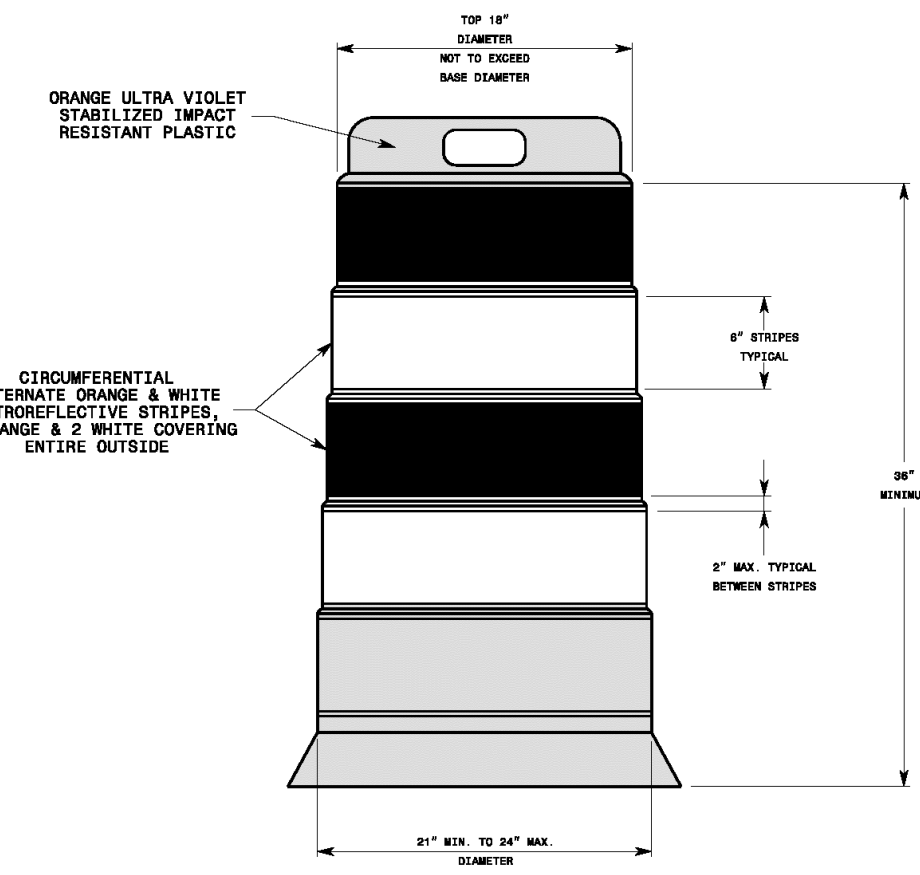
IF SUPPLEMENTAL PANEL IS REQUIRED
USE A 2' MINIMUM HEIGHT TO SIGN SIGN
WITH A 4' MINIMUM HEIGHT TO PANEL.

- GENERAL NOTES**
- DIMENSIONS SHOWN ARE MINIMUM VALUES. MOUNT SIGNS SO THEY WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC EVEN WHEN SIGNS ARE MOUNTED BEHIND TRAFFIC CONTROL DEVICES SUCH AS DRUMS, BARRIERS, OR OTHER OBJECTS.
 - ALL PORTABLE SIGNS AND STANDS MUST MEET OR EXCEED THE REQUIREMENTS OF NCHRP 350 FOR CATEGORY 11 DEVICES. USE PORTABLE WORK ZONE SIGNS AND STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER.
 - ALL PORTABLE WORK ZONE SIGNS AND STANDS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PORTABLE WORK ZONE SIGNS
MOUNTING HEIGHT & LATERAL CLEARANCE

SHEET 1 OF 1
1110.02



CIRCUMFERENTIAL ALTERNATE ORANGE & WHITE RETROREFLECTIVE STRIPES, 2 ORANGE & 2 WHITE COVERING ENTIRE OUTSIDE.

TIRE BALLAST
EXTERNAL DIAMETER 18" (MIN TO BE 18")
2" TYP

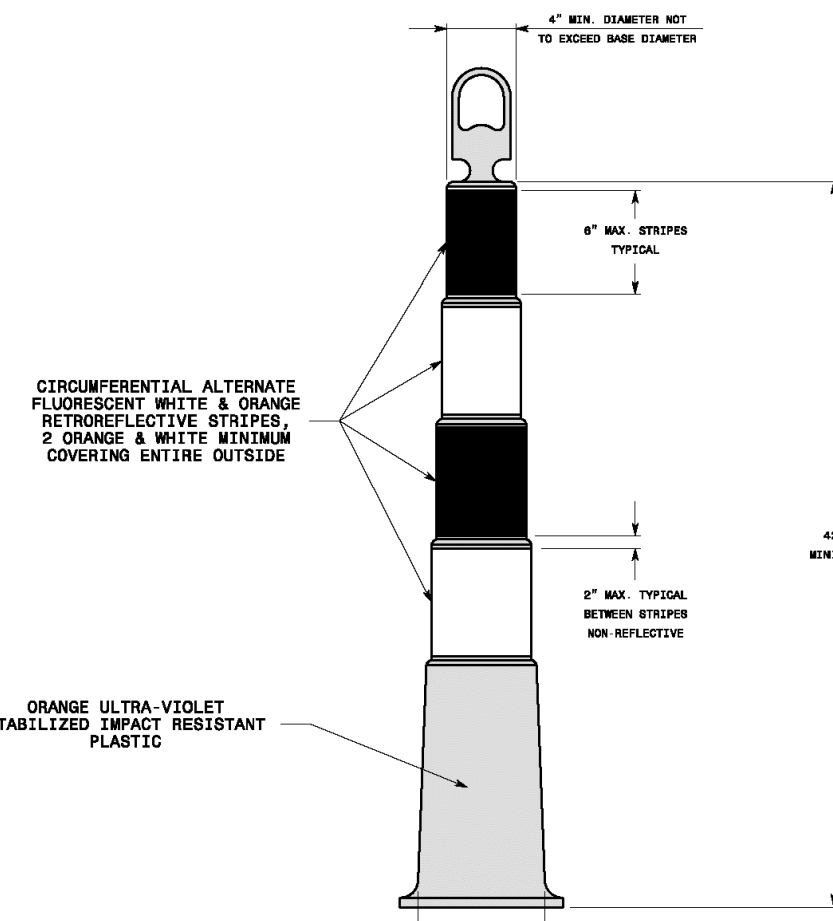
ALL DRUMS SHALL BE BLACK IN COLOR AND FREE OF ANY CORROSION.
BALLAST SHALL BE BLACK IN COLOR AND FREE OF ANY CORROSION.
BALLAST SHALL BE BLACK IN COLOR AND FREE OF ANY CORROSION.
BALLAST SHALL BE BLACK IN COLOR AND FREE OF ANY CORROSION.

- GENERAL NOTES**
- BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE SIDEWALL, OR PERFORMED WEIGHTED BASE METHOD. USE THE TIRE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.
 - IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.
 - ALL DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCT LIST.
 - REFER TO THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL INFORMATION.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
DRUMS

SHEET 1 OF 1
1130.01



CIRCUMFERENTIAL ALTERNATE FLUORESCENT WHITE & ORANGE RETROREFLECTIVE STRIPES, 2 ORANGE & 2 WHITE MINIMUM COVERING ENTIRE OUTSIDE.

TYPICAL BALLAST
18" DIA. BALLAST
CIRCULAR OR NEAR TO
SIDE POLYGONAL SHAPE
BALLAST WILL BE A MINIMUM OF 10 POUNDS

- GENERAL NOTES**
- USE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.
 - IF NECESSARY, PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.
 - REFER TO STANDARD SPECIFICATIONS FOR ROADS AND INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.
 - ALL SKINNY DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
SKINNY DRUMS

SHEET 1 OF 1
1180.01

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

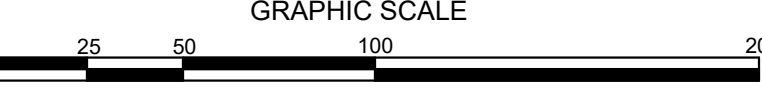
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan
Name _____ Date _____

Planning _____
Traffic _____
Fire _____



NOT RELEASED FOR CONSTRUCTION

OFFSITE TRAFFIC IMPROVEMENTS
TRAFFIC CONTROL PLAN
17TH STREET MIXED-USE
CITY OF WILMINGTON
NORTH CAROLINA

PROJECT STATUS
CONCEPTUAL LAYOUT: _____
PRELIMINARY LAYOUT: _____
RELEASED FOR CONSTRUCTION: _____

DRAWING INFORMATION
DATE: 03/18/20
BY: DAF
CHECKED: DAF
DESIGNED: DAF
DRAWN: DAF
CREATED: DAF

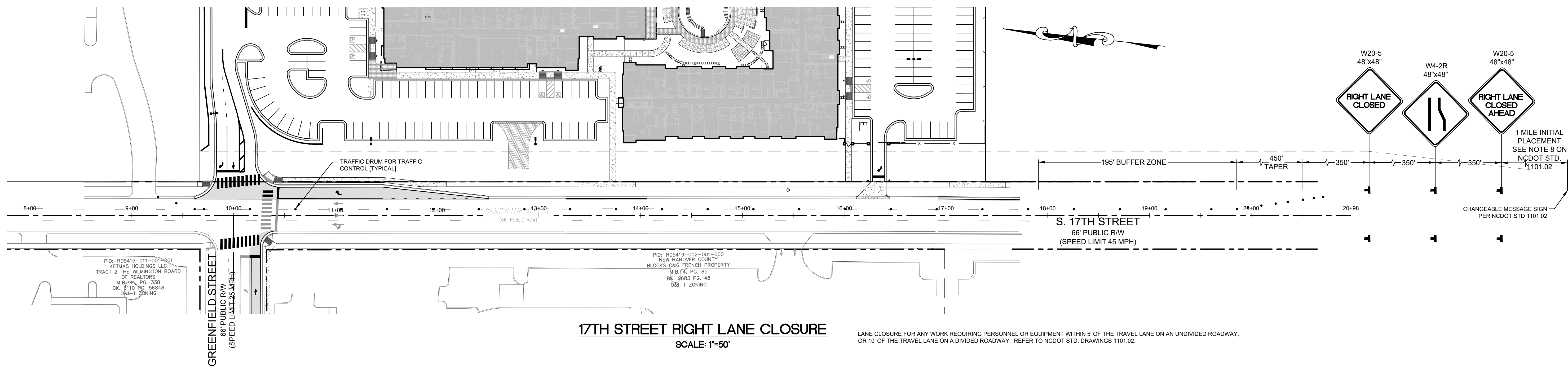
PEI JOB#: 19331.PE

CLIENT INFORMATION
DPI Residential, LLC
1539 TIPPAH PARK CT.
CHARLOTTE, NC 28205

PARAMOUNT
ENGINEERING, INC.
122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6766 (F)
NC License #: C-2846

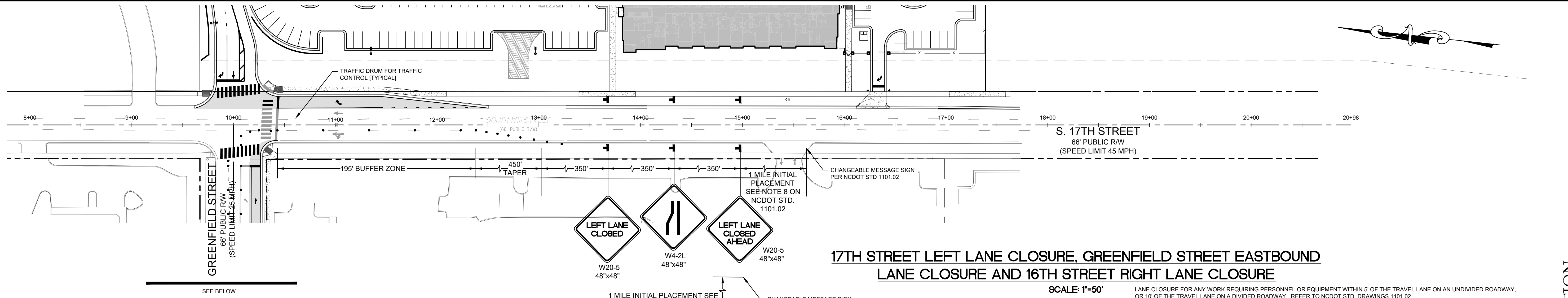
REVISIONS:
1. PER NCDOT & CITY COMMENTS

06/08/20



17TH STREET RIGHT LANE CLOSURE
SCALE: 1"=50'

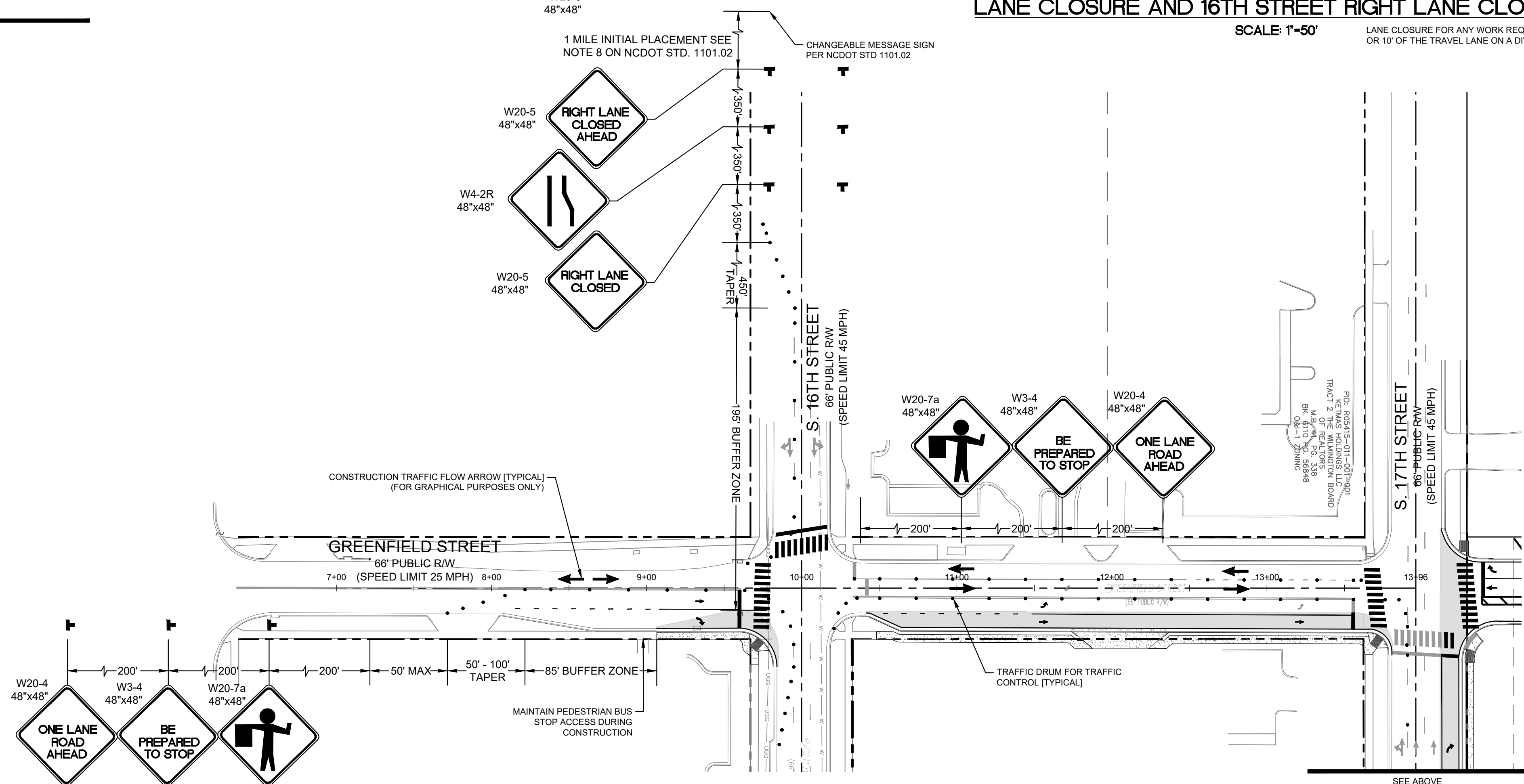
LANE CLOSURE FOR ANY WORK REQUIRING PERSONNEL OR EQUIPMENT WITHIN 5' OF THE TRAVEL LANE ON AN UNDIVIDED ROADWAY, OR 10' OF THE TRAVEL LANE ON A DIVIDED ROADWAY. REFER TO NCDOT STD. DRAWINGS 1101.02.



17TH STREET LEFT LANE CLOSURE, GREENFIELD STREET EASTBOUND LANE CLOSURE AND 16TH STREET RIGHT LANE CLOSURE
SCALE: 1"=50'

LANE CLOSURE FOR ANY WORK REQUIRING PERSONNEL OR EQUIPMENT WITHIN 5' OF THE TRAVEL LANE ON AN UNDIVIDED ROADWAY, OR 10' OF THE TRAVEL LANE ON A DIVIDED ROADWAY. REFER TO NCDOT STD. DRAWINGS 1101.02.

SEE BELOW



17TH STREET LEFT LANE CLOSURE, GREENFIELD STREET EASTBOUND LANE CLOSURE AND 16TH STREET RIGHT LANE CLOSURE
SCALE: 1"=50'

LANE CLOSURE FOR ANY WORK REQUIRING PERSONNEL OR EQUIPMENT WITHIN 5' OF THE TRAVEL LANE ON AN UNDIVIDED ROADWAY, OR 10' OF THE TRAVEL LANE ON A DIVIDED ROADWAY. REFER TO NCDOT STD. DRAWINGS 1101.02.

SEE ABOVE

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

Name _____ Date _____

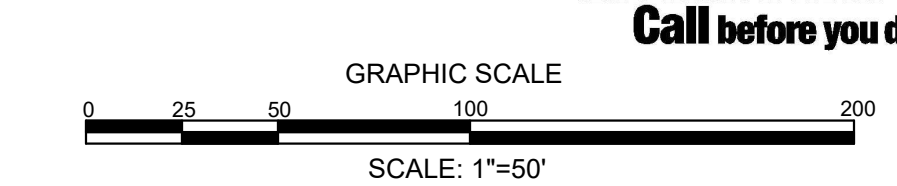
Planning _____

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.

811
Know what's below.
Call before you dig.



REVISIONS:
1. PER NCDOT & CITY COMMENTS

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CHARLOTTE, NC 28205

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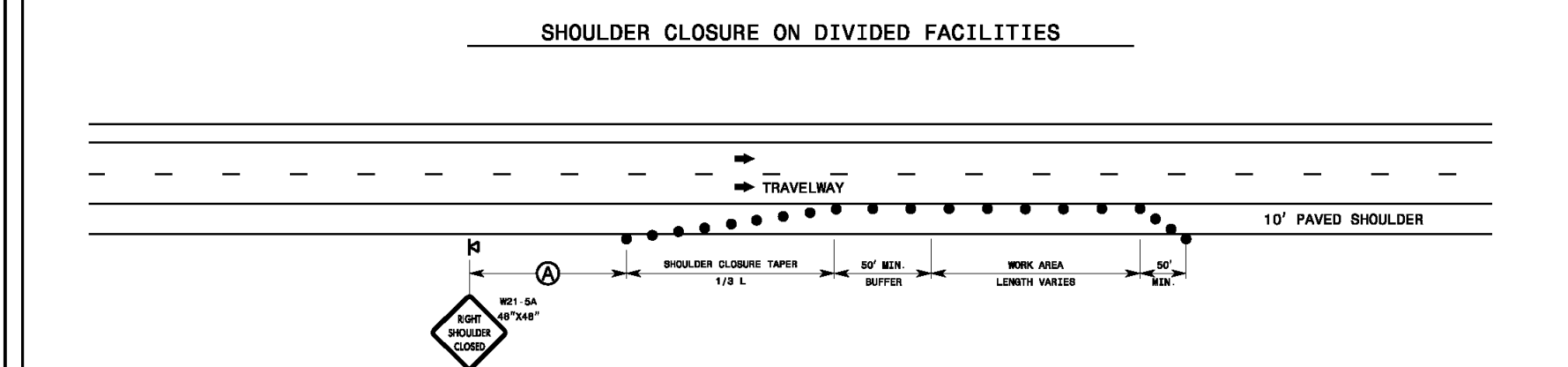
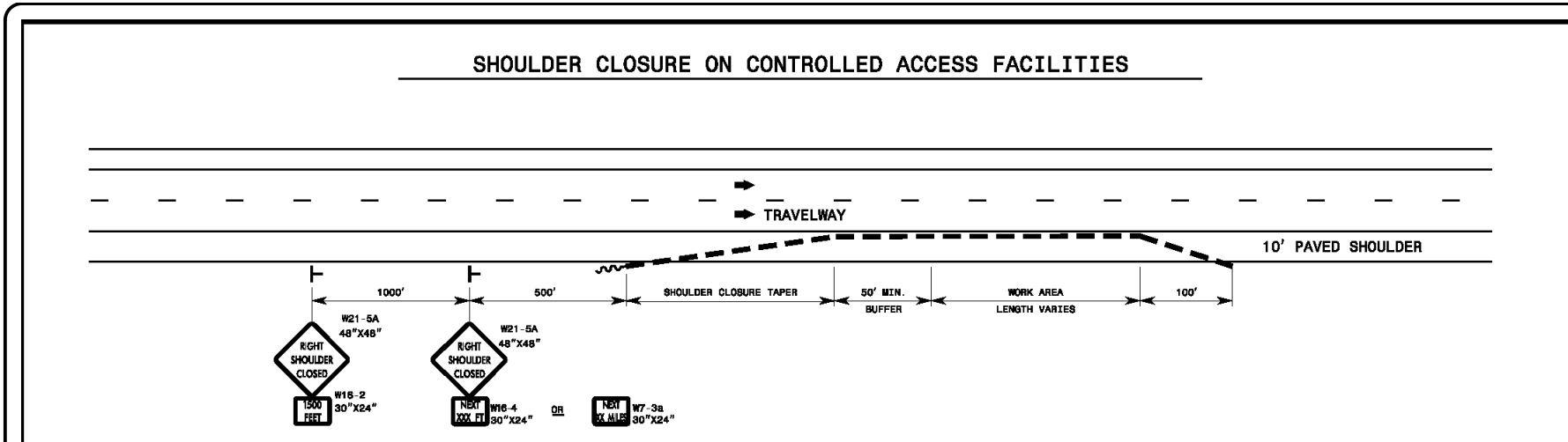
PROJECT STATUS:
CONCEPTUAL LAYOUT: _____
PRELIMINARY LAYOUT: _____
RELEASED FOR CONST: _____

DRAWING INFORMATION:
DATE: 03/18/20
1" DWF
1" DWF
1" DWF
DESIGNED: _____
DRAWN: _____
CHECKED: _____

OFFSITE TRAFFIC IMPROVEMENTS
TRAFFIC CONTROL PLAN
17TH STREET MIXED-USE
CITY OF WILMINGTON
NORTH CAROLINA

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
DA NIELSEN
040501

C6.31
PEI JOB#: 19331.PE



- GENERAL NOTES**
1. PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.
 2. PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
 3. USE STATIONARY SIGNS FOR OPERATIONS IN EFFECT LONGER THAN 3 DAYS.
 4. REFER TO RSD, 1101.11, SHEETS 1, 3 & 4, FOR "L" DISTANCE, BARRIER FLARE RATES, AND SIGN SPACING.

LEGEND

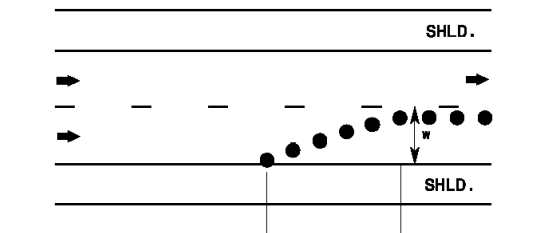
- DRUM
- STATIONARY SIGN
- ⊕ PORTABLE SIGN
- PORTABLE CONCRETE BARRIER
- DIRECTION OF TRAFFIC FLOW
- TEMPORARY CRASH CUSHION

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101.04

EXAMPLE OF "L" & "W" DESIGNATIONS



TAPER LENGTH CRITERIA FOR CHANNELIZING DEVICES IN WORK ZONES

TAPER LENGTH CRITERIA

TYPE OF TAPER	TAPER LENGTH
UPSTREAM TAPER	MINIMUM
DOWNSTREAM TAPER	MINIMUM
SHOULDER TAPER	MINIMUM
2-WAY TRAFFIC TAPER	MINIMUM
CONCRETE TAPER	MINIMUM

QUICK REFERENCE - "L" DISTANCE TABLE

POSTED SPEED (MPH)	MINIMUM LONGITUDINAL DISTANCE "L" (FEET) (ROUND UP)											
	LATERAL WIDTH "W" (FEET)											
10	10	15	20	30	35	40	50	60	70	80	90	100
20	15	20	30	45	55	65	80	95	110	125	140	155
30	20	30	45	70	85	100	125	150	175	200	225	250
40	30	45	70	105	130	155	190	225	260	295	330	365
50	40	60	90	135	170	205	250	295	340	385	430	475
60	50	75	110	165	210	255	310	365	420	475	530	585
70	60	90	135	200	255	310	375	440	505	570	635	700
80	70	105	155	225	290	355	430	505	580	655	730	805
90	80	120	180	255	330	405	490	575	660	745	830	915
100	90	135	210	295	380	465	560	655	750	845	940	1035

- GENERAL NOTES**
1. TABLE FOR "L" DISTANCE IS BASED ON CHANNELIZATION TAPER FORMULA FROM THE MUTCD.
 - W = SPEED LIMIT
 - FORMULA: $L_{min} = \frac{W \times S^2}{60}$
 - 40 MPH OR LESS: $L_{min} = \frac{W \times S^2}{60}$
 - 45 MPH OR GREATER: $L_{min} = W \times S$
 2. "L" DISTANCE IS FOR APPLICATION WITH CHANNELIZING DEVICES AND PAVEMENT MARKING TAPERS AND TRANSITIONS. CHANNELIZING DEVICES INCLUDE DRUMS, CONES, TUBULAR MARKERS, BARRICADES, RAISED ASPHALT ISLANDS, AND VERTICAL PANELS.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES

SHEET 1 OF 4
1101.11

GENERAL NOTES

1. TABLES ARE BASED ON THE AASHTO GREEN BOOK "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON NET AND LEVEL ROADWAYS. CONSULT THE AASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.
2. BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR NET AND LEVEL PAVEMENTS.
3. USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER. FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE MERGE TAPER, OR FLASHING ARROW BOARD. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.
4. USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

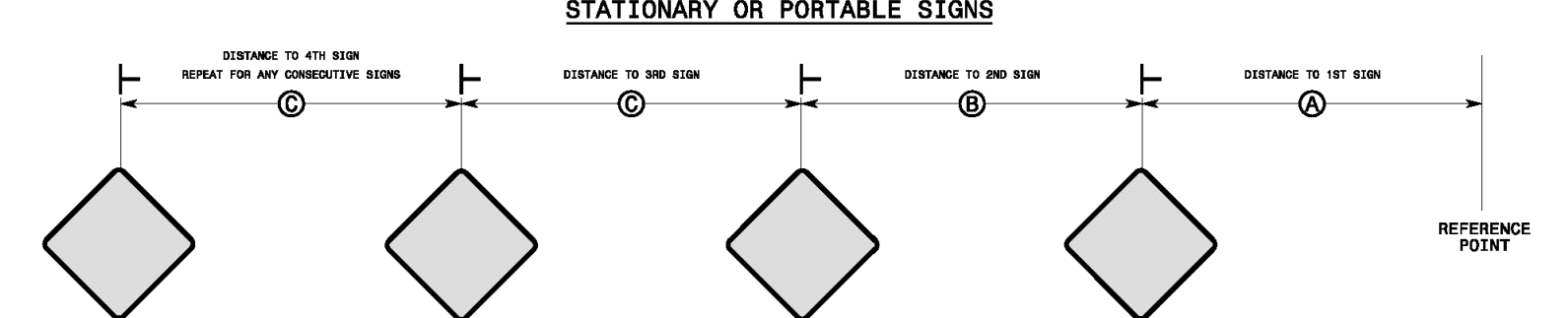
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES

SHEET 2 OF 4
1101.11

ADVANCE MARKING SIGN SPACING CHART

POSTED SPEED LIMIT (MPH)	RECOMMENDED DISTANCE BETWEEN SIGNS (FEET)		
	A	B	C
< 35	300	300	300
40-50	350	350	350
55	500	500	500
CONTROLLED ACCESS ROAD (S, R)	1000	1000	2700

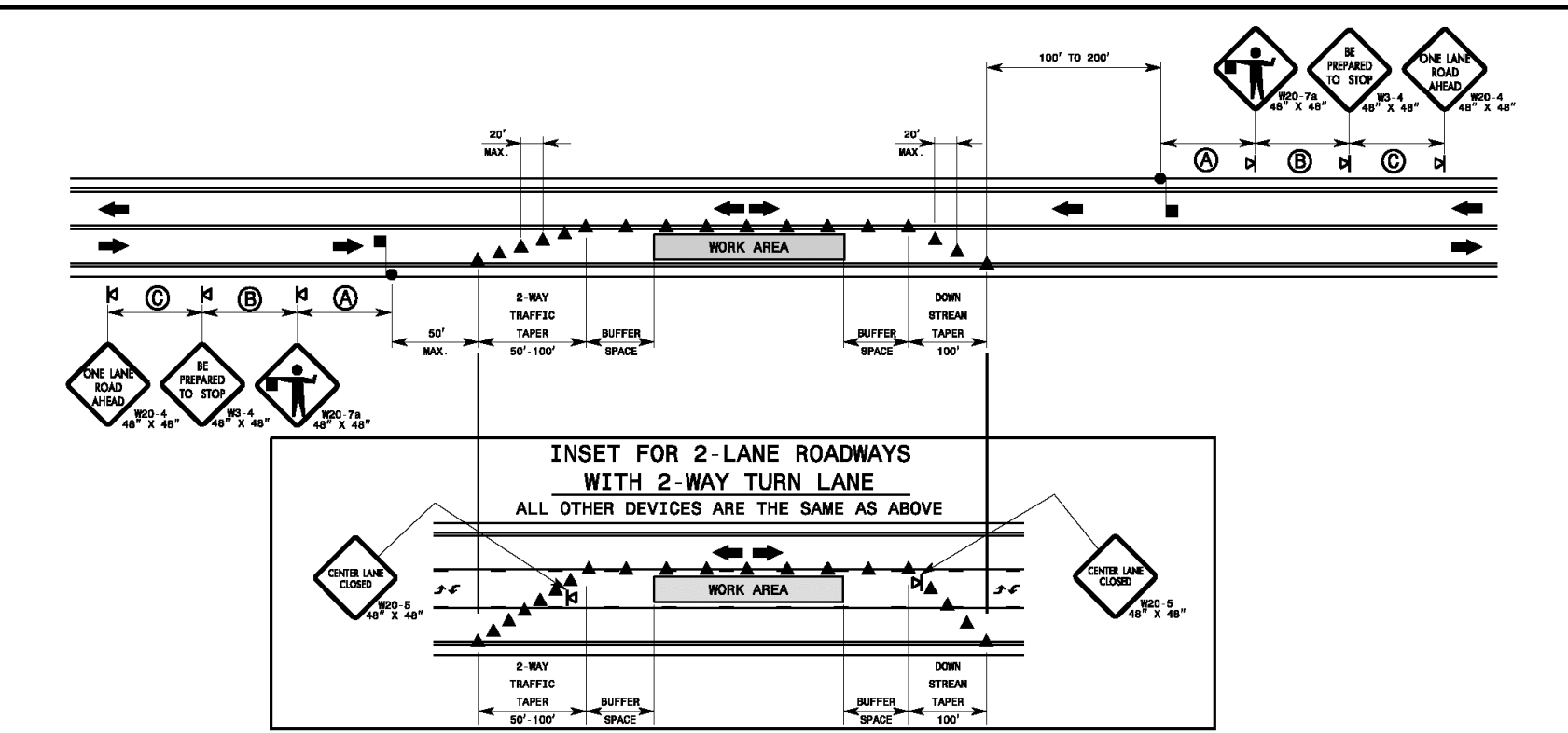


- GENERAL NOTES**
1. REFER TO 2009 MUTCD OR THE LATEST EDITION.
 2. USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.
 3. APPLY THE ADVANCE MARKING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TRAFFIC CONTROL DESIGN TABLES

SHEET 4 OF 4
1101.11



- GENERAL NOTES FOR FLAGGING OPERATIONS**
1. REFER TO RSD, 1101.11, SHEETS 1 & 4, FOR "L" DISTANCE AND SIGN SPACING.
 2. INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
 3. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
 4. PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
 5. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO RSD, 1101.11, SHEET 2).
 6. DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 8 MINUTES AT A TIME.
 7. CONES OR SKINNY DRUMS MAY BE USED IN LIEU OF CONES. REFER TO RSD, 1180.01 FOR SKINNY DRUM REQUIREMENTS.
 8. USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. FLAGGERS SHOULD BE PLACED AT INTERSECTIONS WITH TRAFFIC SIGNALS (RSD 752) INTERSECTIONS PLACE SIGNS IN THE PAVEMENT AND USE LANE CLOSURES.
 9. REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.
 10. DO NOT EXCEED A 1/2 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.
- GENERAL NOTES FOR PILOT CAR OPERATIONS**
1. USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.
 2. IF ROADWAYS ARE LESS THAN 1/2 MILE TO THE BEGINNING OF THE MERGE TAPER, PILOT CARS SHOULD BE PLACED AT THE BEGINNING OF THE MERGE TAPER. CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.
 3. CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.
 4. PILOT CARS SHOULD BE PLACED AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.
 5. DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE.
 6. USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. FLAGGERS SHOULD BE PLACED AT INTERSECTIONS WITH TRAFFIC SIGNALS (RSD 752) INTERSECTIONS PLACE SIGNS IN THE PAVEMENT AND USE LANE CLOSURES.
 7. REFER TO THE CURRENT MUTCD FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.
 8. DO NOT EXCEED A 1/2 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

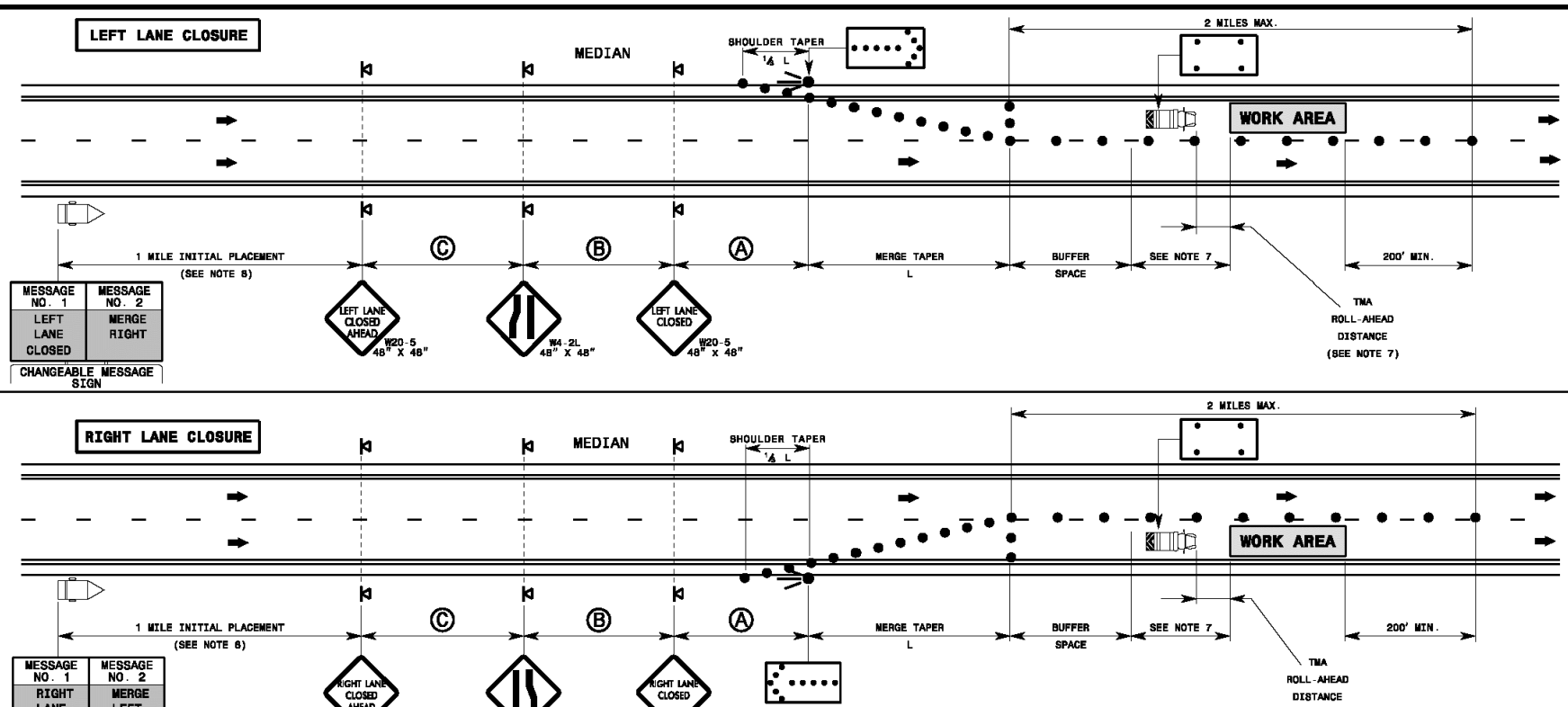
LEGEND

- FLAGGER
- ▲ CONE
- ⊕ PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES

SHEET 1 OF 14
1101.02



- GENERAL NOTES**
1. IF NECESSARY USE THIS RSD FOR ONE-WAY CITY TYPE STREETS WHERE SIGNS MAY BE MOUNTED ON BOTH SIDES OF THE ROADWAY.
 2. PLACE FLASHING ARROW BOARDS (FAB) ON THE SHOULDER (PAVED OR UNPAVED). PLACE FAB WITHIN THE TAPER IF SHOULDER OR UNPAVED EXIST. MEET THE REQUIREMENTS FOR STOPPING SIGHT DISTANCE AT THE FAB. IF STOPPING SIGHT DISTANCE IS NOT MET, PLACE DELEGATE CWS AS PER USE IN ADVANCEMENT OF 1/2 MILE IN ADVANCE OF ANTICIPATED STOPPING SIGHT DISTANCE.
 3. PLACE DRUMS IN TAPERS AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED. PLACE DRUMS ALONG THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED.
 4. REFER TO RSD, 1101.11, SHEETS 1, 2, & 4, FOR "L" DISTANCE, BUFFER SPACE, AND SIGN SPACING.
 5. REFER TO RSD, 1101.02, SHEETS 9 & 10, FOR TREATMENT OF LANE CLOSURES THRU INTERSECTIONS.
 6. INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.
 7. POSITION THE TMP TO MAINTAIN A ROLL-AHEAD DISTANCE AS RECOMMENDED BY THE MANUFACTURER AND CONTINUOUSLY ADVANCE THEM AS WORK PROGRESSES.
 8. PLACE CHANGEABLE MESSAGE SIGN (CMS) ON THE OUTSIDE OF THE TRAVELWAY UNLESS DIRECTED OTHERWISE BY THE ENGINEER. PLACE CMS APPROXIMATELY 1 MILE IN ADVANCE OF THE FIRST STOPPING SIGHT DISTANCE. USE TRAFFIC ATTENUATOR (TA) TO PROTECT THE CMS. PLACE DELEGATE CWS AS PER USE IN ADVANCEMENT OF 1/2 MILE IN ADVANCE OF ANTICIPATED STOPPING SIGHT DISTANCE.
 9. DO NOT EXCEED A 1/2 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

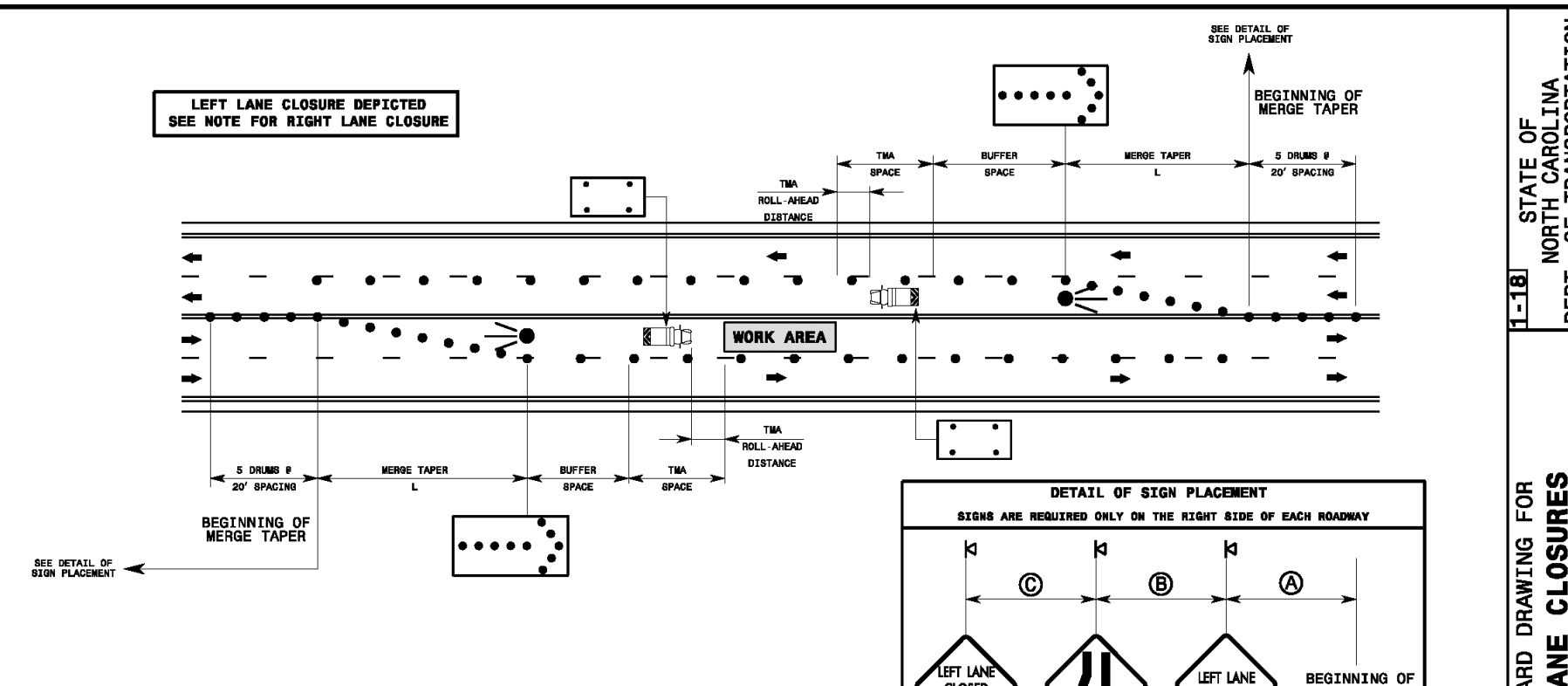
LEGEND

- FLASHING ARROW BOARD
- FLASHING ARROW BOARD (ON "FAB" MOUNT)
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN (CMS)
- DRUM
- ⊕ PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES

SHEET 3 OF 14
1101.02



- GENERAL NOTES**
1. RIGHT LANE CLOSURES ON UNDIVIDED ROADWAYS ARE THE SAME AS FOR DIVIDED ROADWAYS AS SHOWN ON RSD, 1101.02, SHEET 3, EXCEPT APPROACH MARKING SIGNS ARE NOT REQUIRED TO BE MOUNTED ON THE LEFT SIDE OF THE ROADWAY.
 2. REFER TO NOTES ON RSD, 1101.02, SHEET 3.

LEGEND

- FLASHING ARROW BOARD
- FLASHING ARROW BOARD (ON "FAB" MOUNT)
- TRUCK MOUNTED ATTENUATOR (TMA)
- DRUM
- ⊕ PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES

SHEET 7 OF 14
1101.02

Approved Construction Plan

Name: _____ Date: _____

Planning _____ Traffic _____ Fire _____

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Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

WILMINGTON
NORTH CAROLINA

Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit #: _____

Signed: _____

811
Know what's below.
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GRAPHIC SCALE
0 25 50 100 200
SCALE: 1"=50'

NOT RELEASED FOR CONSTRUCTION

REVISIONS:

NO.	DATE	DESCRIPTION
1	PER MUTCD & CITY COMMENTS	

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CREATED BY: DDF

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
DAVID M. FISHER
040501

C6.32

PEI JOB#: 19331.PE