

FF 22479" ""  
39DR06T0: "( '39DR06T0 3"

1

GFI GEQODG'EQWPV[ "

UVCVG'QHP QTVJ "ECTQNKC"  
FGRCTVO GP V'QH'VTCPU RQTVCVKQP "  
J K J Y C[ "F K K K QP "6"

## PROPOSAL

**DATE AND TIME OF BID OPENING: JUNE 12, 2018 AT 2:00 PM**

**CONTRACT ID: DD00257**

**WBS ELEMENT NO.: 17BP.4.R.78 17BP.4.R.81**

**FEDERAL AID NO.: STATE FUNDED**

**COUNTY: EDGECOMBE COUNTY**

**TIP NO.: N/A**

**MILES: 0.171 MILES**

**ROUTE NO.: SR 1109 & SR 1102**

**LOCATION: BRIDGE 67 AND BRIDGE 113 OVER OTTER CREEK**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE**

### NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

**THIS IS A ROADWAY PROJECT.**

**BID BONDS ARE REQUIRED.**

---

**NAME OF BIDDER**

---

**ADDRESS OF BIDDER**

39DR06T0: \" 39DR06T0 3"

**PROPOSAL FOR THE CONSTRUCTION OF  
CONTRACT No. DD00257 IN'EDGECOMBE COUNTY, NORTH CAROLINA**

**June 12, 2018**

**DEPARTMENT OF TRANSPORTATION,  
WILSON, NORTH CAROLINA**

Vj g'Dkf fgt'j cu'ectghwm{ "gzco kpgf "y g'hqecvqp'qh'j g'r tqr qugf "y qtn'vq'dg'hpqy p'cu'Eqpvtcev'P q0DD00257="j cu'ectghwm{ "gzco kpgf "y g'r r'npu'cpf "ur gekh'ecv'kpu."y j lej "ctg"cempqy nfi gf "vq'dg'r ctv'qh'j g'r tqr qucn "y g'ur gekn'r tqxkukpu."y g'r tqr qucn "y g'hqto "qh'eqpvtcev'cpf "y g'hqto u'qh'eqpvtcev'r c{o gpv'dqpf "cpf "eqpvtcev'r gthqto cpeg"dqpf="cpf "y qtqwi j n{"wpf gtucpf u'j g'wkr wv'kpu."tgs vktgo gpv'cpf "r tqxkukpu0"Vj g'wpf gtuki pgf "dkf fgt'ci tggv'vq'dqwpf "w qp'j ku'gzgewkqp'qh'j g'dkf "cpf "uwdugs wgpv'cy ctf "vq'j ko "d{"y g'F gr ctvo gpv'qh'Vtcur qtvcv'kp"p'ceeqtf cpeg'y kj "y ku'r tqr qucn'vq'r tqxkf g'y g'pgeguuct {"eqpvtcev'r c{o gpv'dqpf "cpf "eqpvtcev'r gthqto cpeg"dqpf "y kj kp'hwv'ggp'f c{u'chgt "y g'y tkwgp'pqv'eg'qh'cy ctf "ku'tgegkxgf "d{"j ko 0"Vj g'wpf gtuki pgf "Dkf fgt'hw'j gt'ci tggv'vq'r tqxkf g'cm'pgeguuct {"o cej kpgt {"vq'qnu."rcdqt."cpf "qj gt'o gcpu"qh'eqpvtcev'kqp="cpf "vq'f q'cm'j g'y qtn'cpf "vq'hw'pkuj "cm'o cvgtknu."gzegr v'cu'qj gty kug'pqv'gf."pgeguuct {"vq'r gthqto "cpf"eqo r r'gv"j g'uckf "eqpvtcev'k"ceeqtf cpeg'y kj "the 2018 Standard Specifications for Roads and Structures"d{"y g'f cvgu'u"ur gekh'kf "lp'j g'Rtqlgev'Ur gekn'Rtqxlukpu'cpf "lp'ceeqtf cpeg'y kj "y g'tgs vktgo gpv'qh'j g'Gpi kpggt."cpf "cv'j g'v'pk/qt'hw r "uwo "r tlegu."cu'j g'ecug'o c{"dg."hqt"y g'xctkqwu'kgo u'i kxgp'qp'j g'uj ggu'eqpvc'kpgf "j g'gkp0"

Vj g'Dkf fgt'uj cni'r tqxkf g'cpf "hw'pkuj "cm'j g'o cvgtknu."o cej kpgt {"lo r r'go gpv."cr r r'kpegu'cpf "vq'qnu."cpf "r gthqto "y g'y qtn'cpf "tgs vktgf "rcdqt"vq'eqpvtcev'kqp'eqo r r'gv"Ucv'J ki j y c {"Eqpvtcev'P q0DD00257"lp'Edgecombe County."hqt"y g'v'pk/qt"nwo r "uwo "r tlegu."cu'j g'ecug'o c{"dg."dkf "d{"y g'Dkf fgt'lp'j ku'dkf "cpf "ceeqtf kpi "vq'j g'r tqr qucn "r r'npu."cpf "ur gekh'ecv'kpu"r tgr ctgf "d{"uckf "F gr ctvo gpv."y j lej "r tqr qucn "r r'npu."cpf "ur gekh'ecv'kpu"uj qy "y g'f g'cku'eqxgtkpi "y ku'r tqlgev."cpf "j g'gd {"dgeo g'c'r ctv'qh'j ku'eqpvtcev0"

Vj g'r wdrkuj gf "xqno g'gp'w'kf "North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018 y kj "cm'co gpf o gpv'cpf "uwr r r'go gpv'v'j g'g'vq."ku'd {"t'ghgt'gpeg"lpeqr qtcv'gf "lp'vq'cpf "o cf g'c'r ctv'qh'j ku'eqpvtcev'v'c'gzegr v'cu'j g'g'vq."o qf k'kf."cm'j g'eqpvtcev'kqp'cpf "y qtn'kpen'f gf "lp'j ku'eqpvtcev'ku'vq'dg'f qpg"lp'ceeqtf cpeg"y kj "y g'ur gekh'ecv'kpu'eqpvc'kpgf "lp'uckf "xqno g."cpf "co gpf o gpv'cpf "uwr r r'go gpv'v'j g'g'vq."wpf gt'v'j g'f k'gewkqp'qh'j g'Gpi kpggt0"

K'j g'r tqr qucn'ku'ceegr v'gf "cpf "y g'cy ctf "ku'o cf g."y g'eqpvtcev'ku'x'cnf "qpn' "y j gp'uki pgf "gk'j gt "d {"y g'Eqpvtcev'Qh'k'gt"qt"uwej "qj gt'r gtuqp'cu'o c {"dg'f guki pcv'gf "d {"y g'Ugetgvt {"vq'uki p'hw'j g'F gr ctvo gpv'qh'Vtcur qtvcv'kp0"Vj g'eqpf k'kpu'cpf "r tqxkukpu'j g'g'k'p'ecppq'v'g'ej cpi gf "gzegr v'q'xgt"y g'uki pcwtg'qh'j g'uckf "Eqpvtcev'Qh'k'gt"qt"F k'kukqp'Gpi kpggt0"

Vj g's wcpv'k'gu'uj qy p'lp'v'j g'kgo k'gf "r tqr qucn'hw'j g'r tqlgev'ctg'eqpukf gtgf "vq'dg'cr r tqzko cvg'qpn' "cpf "ctg'i kxgp'cu'v'j g'dcuku'hw'eqo r ctukqp'qh'k'f u0"Vj g'F gr ctvo gpv'qh'Vtcur qtvcv'kp'o c {"k'petgcug'qt'f getgcug'v'j g's wcpv'k' {"qh'cp {"kgo "qt'r qt'v'kp'qh'j g'y qtn'cu'o c {"dg'f ggo gf "pgeguuct {"qt"gzr gf k'gpv0"

Cp'k'petgcug'qt'f getgcug'lp'v'j g's wcpv'k' {"qh'cp'kgo "y k'npq'v'g'g'gi ctf gf "cu'hw'k'k'gpv'i tqwpf "hqt'cp'k'petgcug'qt'f getgcug'lp'v'j g'v'pk/r tlegu."pqt'lp'v'j g'kgo g'cm'qy gf "hqt"y g'eqo r r'gv'kqp'qh'j g'y qtn'gzegr v'cu'r tqxkf gf "hqt"y g'eqpvtcev0

Ceeqo r cp {"kpi "y ku'dkf "ku'c'dkf "dqpf "ugewt gf "d {"c'eqtr qtcv'gw'v'f."qt'egt'v'k'kf "ej gen'r c {"cdng'vq'v'j g'qtf gt'qh'j g'F gr ctvo gpv'qh'Vtcur qtvcv'kp."hqt"hxg'r gtegp'v'qh'j g'v'cn'dkf "r tleg."y j lej "f gr quks'ku'vq'dg'hw'k'k'gf "cu'k's w'k'cv'gf "f co ci gu'lp'ecug'v'j ku'dkf "ku'ceegr v'gf "cpf "y g'Dkf fgt'uj cni'k'k'v'q'r tqxkf g'y g'tgs vktgf "r c{o gpv'cpf "r gthqto cpeg"dqpf u'y kj "y g'F gr ctvo gpv'qh'Vtcur qtvcv'kp."wpf gt'v'j g'eqpf k'kqp'qh'j ku'r tqr qucn "y kj kp'36"ecrpgf ct'f c{u'chgt "y g'y tkwgp'pqv'eg'qh'cy ctf "ku'tgegkxgf "d {"j ko ."cu'r tqxkf gf "lp'v'j g'Uc'pf ctf "Ur gekh'ecv'kpu="qj gty kug'uckf "f gr quks'v' k'ndg't'gwtpgf "vq'v'j g'Dkf fgt0"

"

"

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**COVER SHEET  
PROPOSAL SHEET**

THIS CONTRACT IS FOR CONTRACT **DD00257** FOR **GRADING, DRAINAGE, PAVING  
AND STRUCTURE** TYPE OF WORK IN **EDGECOMBE COUNTY**.

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**PROPOSAL ITEM SHEET AND SIGNATURE SHEET**

**INSTRUCTIONS TO BIDDERS**

"

**PLEASE READ ALL INSTRUCTIONS CAREFULLY  
BEFORE PREPARING AND SUBMITTING YOUR BID.**

"

**All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement may cause the bid to be considered irregular and may be grounds for rejection of the bid.**

Hqt"rtgrctkpi "cpf"uwo kwpkpi "vj g"dkf"grgevtqplecm{"wukpi "vj g"qp/rkpg"u{uvgo "Dkf"Gzrtguul . "tghgt"  
vq"Ctvekrg"324/: \*D+qhl'vj g"2018 *Standard Specifications*. "

"

Dkf fgtu"vj cv"dkf"grgevtqplecm{"qp"Trgkij "Egptcn/Ngv"rtqlgevu"y km'pggf "c"ugrctcvg"Fki kcn'  
Uki pcwtg'hqto "Dkf"Gzrtguul "hqt'Fkxkukqp'Eqpvtcevu0'

**ELECTRONIC ON-LINE BID THRU BID EXPRESS:**

30""Fqy pncf "gpvtg"rtqrqucn'ltqo "Eqppgev"PEFQV"y gdukg0""Fqy pncf "GDU'hkg"ltqo "Dkf "  
Gzrtguu'y gdukg0'

40' Rtgrctg'cpf"uwo k'GDU'hkg'wukpi "Gzr gf kg'uqhvy ctg0'

50""Gzr gf kg'uqhvy ctg"pgeguuct{"hqt"grgevtqple"dkf"rtgrctcvkp"oc{"dg"fqy pncf gf "ltqo "vj g"  
Eqppgev"PEFQV"y gdukg'cv<[j wr u<leqppgevQef qv0 qx lrgwki lRci gu/GDU/Kphqto cvkp0ur z](#)"qt"  
ltqo "Dkf"Gzrtguu0'

"

"



## PROJECT SPECIAL PROVISIONS

### GENERAL

"

#### REQUIRED PRECONSTRUCTION MEETING:

**The Contractor shall contact Corey McLamb, PE, Division Construction Engineer, at (252)640-6400 to arrange the required pre-construction meeting. The project superintendent is required to attend.**

"

Vj g'r tqr qugf "r tqi tguu'uej gf wrg'o wuv'dg'uwdo kwgf "v'j g'F kxkukqp"Eqpwtwekqp"Gpi kpggt "ugxgp"  
\*7+"f c{u'r tlqt "v'j g'f cvg"qh'j g'r tgeqputwekqp"o ggkpi 0Cv'j g'r tgeqputwekqp"o ggkpi "j g"  
Eqpwtcevt"uj cm'uw r n' "j g'hmqy kpi "lphqto cvkqp<"

"

- P co g'qh'r gtuppu'cwj qtk gf "v'uki p"Uwr r ngo gpvci"Ci tgggo gpw"
- P co g'qh'j g'GGQ"Qhleg"cpf "O kqtkv{"Nckukqp"Qhleg"
- P co g'qh'j g'Gtqkqp"Eqptqnlcpf "Ugf ko gpvEqptqnlUqto "Y cvgt"Egtvklgf "Uwr gtxkqt." "Egtvklgf "Hqtgo cp."Egtvklgf "Kpuvngt."cpf "Egtvklgf "F guki pgt"
- P co g'qh'j g'Y qtm\ qpg"Vtchle"EqptqnlUwr gtxkqt"
- Dw{"Co g'lec"Egtvklgf"cvkqp"

#### BOND REQUIREMENTS:

"28/23/38+"

324/: "324/32"

URF "23/642C"

"

C'Dkf "Dqpf "ku'tgs wktgf "lp"ceeqtf cpeg"y kj "Ctvleng"324/32"qh'j g'2018 *Standard Specifications for Roads and Structures.*

"

Eqpwtcev"Rc{o gpv"cpf "Rgthqto cpeg"Dqpf u"ctg"tgs wktgf "lp"ceeqtf cpeg"y kj "Ctvleng"325/9"qh'j g'2018 *Standard Specifications for Roads and Structures*0"

"

#### CONTRACT TIME AND LIQUIDATED DAMAGES<

"9/3/; 7+"Tgx034/3: /29+"

32: "

UR3'I 27"C"

"

Vj g'f cvg"qh'cxckcdkklv{"hqt"j ku'eqpwtcev"ku'j g'f cvg"j g'Eqpwtcevqt"dgi kpu'y qtm'dw'pqv'dghqtg"**July 12, 2018**"qt"rcvt"j cp"**August 11, 2018.**"gzegr v'j cv'y qtm'lp"lwtkf levkqpcn'y cvgtu"cpf "y gvrpf u"uj cm'pqv'dgi lp"wpvklc"o ggkpi "dgvy ggp"PEF QV."Tgi wrcvt{"Ci gpelgu."cpf "j g'Eqpwtcevqt"ku'j grf "cu"uwr wrcvgf "lp"j g'r gto ku'eqpvkpgf "gnugy j gtg"lp"j ku'r tqr quci0"Vj ku'f grc{"lp"cxckcdkklv{"j cu"dggp"eqpukf gtgf "lp"fgvto klpki "j g'eqpwtcev"ko g'hqt"j ku'r tqlgv0"

"

Vj g'eqo r rgvqp"fcvg"lqt"j ku'eqpwtcev"ku'j g'f cvg"j cv"ku'**Four Hundred Ninety Five (495)**"eqpugewkxg"ecrgpf ct"fc{u'chwgt"cpf "lpnw kpi "j g'f cvg"qh'cxckcdkklv{0"

"

Gzegr v'y j gtg"qv gty kug'r tqxkf gf "d{"j g'eqpwtcev."qdugtxcvqp"r gtlkf u'tgs wktgf "d{"j g'eqpwtcev"y km'pqv'dg"r ctv'qh'j g'y qtm'v"dg"eqo r rgvqp"fcvg"cpf lqt"lpvgt o gf kcvg'eqpwtcev"ko gu"ucvvgf "lp"j g'eqpwtcev0"Vj g'ceegr vcdrg"eqo r rgvqp"qh'j g'qdugtxcvqp"r gtlkf u'j cv'gzvpgf "dg{qpf "j g'hpcn'eqo r rgvqp"fcvg"uj cm'dg"r ctv'qh'j g'y qtm'eqxgtgf "d{"j g'r gthqto cpeg"cpf "r c{o gpv"dqpf u0"

"

39DR06T0: "( '39DR06T0 3"

Vj g'ns wkf cvgf "f co ci gu'hqt"vj ku'eqptcev'ctg"**Two Hundred Dollars (\$200.00)**"r gt"ecrgpf ct"fc{0"  
Cv'vj g'r tgeqputwekqp"eqphgtgpeg"vj g'Eqptcevqt"uj cm'f gerctg"j ku'gxr gevzf "f cvg"ht"dgi kppkpi "  
y qtn0""Uj qwf"vj g'Eqptcevqt"f guktg"q"tgxkug"vj ku'f cvg"chgt"vj g'r tgeqputwekqp"eqphgtgpeg."j g"  
uj cm'pqkh{"vj g'Gpi kpggt"lp'y tkkpi "cv'gcu'vj kv{"\*52+f c{u'r tlqt"q"vj g'tgxkugf "f cvg0"  
"

**INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES<**

\*34/3: /29+\*Tgx04/43/34+"

32: "

UR3'I 35"D"

Gzegr v'ht"vj cv'y qtm'tgs wktgf "wpf gt"vj g'Rtqlgev'Ur geknRtqxkukqpu'gpvkrgf "*Planting, Reforestation*"  
cpf lqt"*Permanent Vegetation Establishment*."lpenwf gf "gnugy j gtg"lp"vj ku'r tqr qucn"vj g'Eqptcevqt"  
y kn'dg'tgs wktgf "q"eqo r rgvg"cm'y qtm'lpenwf gf "lp"vj ku'eqptcev'cpf "uj cm'r nceg"cpf "o clpvkvp"tchle"  
qp"uco g0"  
"

Vj g'f cvg"qh'cxckkdkk{"hqt"vj ku'lpvgt o gf kvg"eqptcev'vko g'ku'vj g'f cvg"qh'cxckkdkk{"qh'vj g'eqptcev0"  
"

Vj g'eqo r rgvkp"fcv'ht"vj ku'lpvgt o gf kvg"eqptcev'vko g'ku'vj g'f cvg'y j lej "ku'**Three Hundred Forty Five (345)**"eqpugewkxg"ecrgpf ct"fc{u'chgt"vj g'f cvg"qh'cxckkdkk{0"  
"

Vj g'ns wkf cvgf "f co ci gu'hqt"vj ku'lpvgt o gf kvg"eqptcev'vko g'ctg"**Six Hundred Dollars"(\$600.00)**"  
r gt"ecrgpf ct"fc{0"  
"

Wr qp"cr r ctgvp'eqo r rgvkp"qh'cm'vj g'y qtm'tgs wktgf "q"dg"eqo r rgvgf "d{"vj ku'lpvgt o gf kvg"fcv"fc"  
hpcn' lpur gevqk" y kn' dg" j grf "lp" ceeqtf cpeg" y kj " Ctverg" 327/39" cpf " wr qp" ceegr vcep" y j g"  
F gr ctvo gpv' y kn' cuuwo g" tgr qpukdkk{" hqt" y j g" o clpvgcpeg" qh' cm' y qtm' gzegr v' *Planting,*  
*Reforestation*"cpf lqt"*Permanent Vegetation Establishment*0"Vj g'Eqptcevqt'y kn'dg'tgr qpukdg'ht"  
cpf "uj cm'o cng"eqttgevkpu"qh'cm'f co ci gu"q"vj g'eqo r rgvgf "tqcf y c{"ecwugf "d{"j ku'r rpvkpi "  
qr gtcvkpu."y j gvj gt"qeewtkpi "r tlqt"q"qt"chgt'r nckpi "tchle"vj tqwi j "vj g'r tqlgev0"  
"

**INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:**

"

Vj g'Eqptcevqt"y kn'dg"cm'y gf "q"emug"vj g'tqcf "q"r gthqto "y qtm'ht"**Bridge #67 (SR 1109 – South Fountain Road)**"cu'uj qy p"lp"vj g'r tqlgev'r rpu0"  
"

Vj g'f cvg"qh'cxckkdkk{"hqt"vj ku'lpvgt o gf kvg"eqptcev'vko g'ku'vj g'f cvg"vj g'Eqptcevqt"ngew"q"emug"  
vj g'tqcf "q"dg' lp"vj g'y qtm'dw"**shall be no later than August 11, 20180**"  
"

"

Vj g'Eqptcevqt"uj cm'tg/qr gp"vj g'emugf "tqcf"cpf"r nceg"cpf"o clpvkvp"tchle"qp"uco g"d{"vj g"  
eqo r rgvkp"fcv'ht"vj ku'lpvgt o gf kvg"eqptcev'vko g0"  
"

Vj g'eqo r rgvkp"fcv'ht"vj ku'lpvgt o gf kvg"eqptcev'vko g'ku'vj g'f cvg'y j lej "ku'**One Hundred Eighty (180)**"eqpugewkxg"ecrgpf ct"fc{u'chgt"cpf "lpenwf kpi "vj g'f cvg"vj g'Eqptcevqt"emugu"vj g'tqcf0"  
"

Vj g'ns wkf cvgf "f co ci gu'ctg"**Six Hundred Dollars"(\$600.00)**"r gt"ecrgpf ct"fc{0"  
"

39DR06T0: "( '39DR06T0 3"

**INTERMEDIATE CONTRACT TIME NUMBER 3 AND LIQUIDATED DAMAGES:**

Vj g"Eqpvtcevqt"y kn'dg"cmjy gf "vq"emug"vj g"tqcf "vq"r gthqto "y qtn'hqt" **Bridge #113 (SR 1102 – Otter Creek Church Road)** "cu'uj qy p"lp"vj g'r tqlgev'r rpu0'

Vj g'f cvg"qh'cxckndkdv{ 'hqt"vj ku'lpvgt o gf kvg"eqpvtcev'vko g'ku'vj g'f cvg"vj g'Eqpvtcevqt"grgew'vq"emug"vj g"tqcf "vq"dgi kp"vj g'y qtn0'

Vj g"Eqpvtcevqt"uj cm'tg/qr gp"vj g"emugf "tqcf "cpf "r ræg"cpf "o clpvcvp"vchle"qp"uco g"d{ "vj g"eqo r ngvqp"f cvg'hqt "vj ku'lpvgt o gf kvg"eqpvtcev'vko g0'

Vj g'eqo r ngvqp"f cvg'hqt "vj ku'lpvgt o gf kvg"eqpvtcev'vko g'ku'vj g'f cvg"y j lej 'ku'**One Hundred Thirty Five(135)**"eqpugewkxg"ecrgpf ct "f c{ u'chgt"cpf "kpenw kpi "vj g'f cvg"vj g'Eqpvtcevqt"emugu"vj g"tqcf 0'

Vj g'hs wkf cvgf "f co ci gu'ctg'**Six Hundred Dollars (\$600.00)**"r gt"ecrgpf ct "f c{ 0'

**CONSTRUCTION SEQUENCE:**

Uko wncpgqwu'Eqputwvklp"qh'dqv 'ukgu.'Dtkfi g"%89\*UT"332; "6"Uqwj 'Hqwpvclp"tqcf "+cpf "Dtkfi g"%835\*UT"3324"6"Qwgt"EtggmEj wtej "Tqcf "+ku'pqv'cmjy gf 0'

**Bridge #67 (SR 1109 – South Fountain Road)** shall be eqputwvgtf 'htuv'cpf "uvtvgf "pq'rvgt"vj cp" **August 11, 20180'**

**PERMANENT VEGETATION ESTABLISHMENT:**

\*4/38/34+\*Tgx032/37/35+ "

326"

UR3T 38"

Guxcdrikuj "c"r gto cpgrp'vucpf "qh'vj g"xgi gvcvqp"o kz wtg'uj qy p"lp"vj g"eqpvtcev0" F wtkpi "vj g'r gtlkf "dgvy ggp" kpkcn' xgi gvcvqp"r rpvkpi "cpf "hpcn'r tqlgev'ceegr vpeg."r gthqto "cm'y qtn'pgeguuct { "vq"guvcdrikuj "r gto cpgrp' xgi gvcvqp"qp"cm' gtqf kdr"ctgeu"y kj kp"vj g"r tqlgev' rko ku."cu"y gmi'cu."kp"dqttqy "cpf "y cuvg"r ku0" "Vj ku"y qtn'uj cm' kpenw g"gtqulqp"eqpvtqn'f gxleg"o clpvgpcpeg"cpf "kpuvncvklp." tgr ck" uggf kpi "cpf "o wæj kpi ." uwr r go gpvcl' uggf kpi "cpf "o wæj kpi ." o qy kpi ." cpf "hgtvkl gt"vqr ftguakpi ."cu"ftgevgf 0" "Cm'y qtn'uj cm'dg"r gthqto gf "kp"ceeqtf cpeg"y kj "vj g"cr r rlecdr"ugevklp"qh'vj g"2018 Standard Specifications0"Cm'y qtn'tgs wktgf "hqt" kpkcn'xgi gvcvqp"r rpvkpi "uj cm'dg"r gthqto gf "cu"r ctv'qh'vj g'y qtn'pgeguuct { "hqt"vj g'eqo r ngvqp"cpf "ceegr vpeg"qh'vj g"lpvgt o gf kvg"Eqpvtcev'vko g"\*KE V+0"Dgvy ggp"vj g"vko g"qh'KE V"cpf "Hpcn'Rtqlgev'ceegr vpeg."qt"qy gty kug'tghgttgf "vq"cu'vj g"xgi gvcvqp"guvcdrikuj o gpv'r gtlkf . "vj g'F gr ctvo gpv'y kn'dg'tgur qpukdr" hqt"r tgr ctkpi "vj g'tgs wktgf "P cvkqpcn'Rqmwcvp'F kiej cti g"Grko kpcvqp"U{ uvgu "P RF GU"lpur gevklp"tgeqtf u0'

Qpeg"vj g"Gpi kpggt"j cu"fgvgt o kpgf "vj cv'vj g"r gto cpgrp'xgi gvcvqp"guvcdrikuj o gpv'tgs wktgo gpv'j cu"dggp"cej kxgf "cv'cp": 2' "xgi gvcvqp"fgpuv{ "vj g"co qwpv'qh'guvcdrikuj gf "xgi gvcvqp"r gt"i kxgp"ctgc"vq"uvcdrk g"vj g"uqkn"cpf "pq"gtqf kdr"ctgeu"gzku'y kj kp"vj g"r tqlgev' rko ku."vj g"Eqpvtcevqt"y kn'dg"pqvklgf "vq'tgo xvg"vj g'tgo clpki "gtqulqp"eqpvtqn'f gxlegu"vj cv'ctg'pq'hupi gt"pggf gf 0"Vj g"Eqpvtcevqt"y kn'dg'tgur qpukdr" hqt."cpf "uj cm'eqttgevc{ "ctgeu'f kuwtdgf "d{ "qr gtcvqp'u'r gthqto gf "kp"r gto cpgrp'

39DR06T0: "( '39DR06T0 3"

xgi gvcvkp" gucdnkuj o gpv" cpf " yj g" tgo qxcn' qh' vgo r qtct { " gtqvkp" eqpvtqn' o gcwvgtu. " y j gvj gt " qeevttkpi 'r tkt 'v'qt'chgt'r rckpi "vchle"qp'yj g'r tqlgev0'

Rc { o gpv'ht "Response for Erosion Control." Seeding and Mulching, Repair Seeding. "Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation, cpf Stone for Erosion Control y kn'dg" o cf g" cv' eqpvtcev' wpl' r tlegu' hqt " yj g" chgevgf " kgo u0 " Y qtn' tgs wktgf " yj cv' ku' pqv' tgr tguvgf " d { " eqpvtcev' hpg' kgo u'y kn'dg' r ckf " kp' ceeqtf cpeg' y kj " Ctvleng" 326/9" qt " 326/5" qh' yj g" 2018 Standard Specifications0 " P q " cf f kqpcn' eqo r gpucvkp" y kn' dg" o cf g" hqt " o clpvgpcpeg" cpf " tgo qxcn' qh' vgo r qtct { " gtqvkp" eqpvtqn' kgo u0'

**NO MAJOR CONTRACT ITEMS:**

\*4/3; /24+\*Tgx0: /43/29+ "

326"

UR3'T 53"

P qpg" qh' yj g' kgo u' kpenwf gf " kp' yj ku' eqpvtcev' y kn' dg" o clqt " kgo u0'

**NO SPECIALTY ITEMS:**

\*9/3; /7+ "

32: /8"

UR3'T 56"

P qpg" qh' yj g' kgo u' kpenwf gf " kp' yj ku' eqpvtcev' y kn' dg" ur geknw { " kgo u' \*ugg" Ctvleng" 32: /8" qh' yj g" 2018 Standard Specifications+0'

**FUEL PRICE ADJUSTMENT:**

\*33/37/27+\*Tgx04/3: /36+ "

32: /: "

UR3'T 65"

Tgxkug" yj g" 2018 Standard Specifications" cu' hqmvy u<

**Page 1-83, Article 109-8, Fuel Price Adjustments, cf f " yj g' hqmvy kpi <**

Vj g' dcug' kpf gz' r tleg' hqt' F IGUGN%4' HWGN' ku' \$2.2154' r gt' i cnmp0' Y j gtg' cp { " qh' yj g' hqmvy kpi " ctg" kpenwf gf " cu' r c { " kgo u' kp' yj g' eqpvtcev' yj g { " y kn'dg' gni kdr' hqt' hwnr tleg' cf lwuwo gpv0'

Vj g' r c { " kgo u' cpf " yj g' hwnr hcevt' wugf " kp' ecnwrcvki " cf lwuwo gpv' v' dg" o cf g' y kn'dg' cu' hqmvy u<

Description	Units	Fuel Usage Factor Diesel
Wpencukhf "Gzexcvcvkp"	I cnE[ "	204; "
Dqttqy "Gzexcvcvkp"	I cnE[ "	204; "
Ercuu'KX"Uwdi tcf g'Ucdkkl cvkqp"	I cnVqp"	2077"
Ci i tgi cvg'Dcug'Eqtug"	I cnVqp"	2077"
Uwd/Dcmruv'	I cnVqp"	2077"
Cur j cn/Eqpetgv'Dcug'Eqtug."V{r g"aaaa "	I cnVqp"	40 2"
Cur j cn/Eqpetgv'Kpvgto gf kcv'Eqwtug."V{r g"aaaa "	I cnVqp"	40 2"
Cur j cn/Eqpetgv'Uwhreg'Eqwtug."V{r g"aaaa "	I cnVqp"	40 2"
Qr gp/I tcf gf "Cur j cn/Hlevkqp'Eqwtug"	I cnVqp"	40 2"
Rgtogcdrg"Cur j cn/F tclpci g'Eqwtug."V{r g"aaaa "	I cnVqp"	40 2"
Ucpf "Cur j cn/Uwhreg'Eqwtug."V{r g"aaaa "	I cnVqp"	40 2"
Ci i tgi cvg'hqt'Ego gpv'Vtgcvgf "Dcug'Eqtug"	I cnVqp"	2077"
Rqtvrpf "Ego gpv'hqt'Ego gpv'Vtgcvgf "Dcug'Eqtug"	I cnVqp"	2077"

39DR06T0: "( '39DR06T0 3"

aa\$Rqtwpf 'Ego gpv'Eqpetgvg'Rcxgo gpv'	I cniU\ "	"20467"
Eqpetgvg'Uj qwf gtu'Cf lcegpv'q'aa\$Rcxgo gpv'	I cniU\ "	"20467"

"

**MINORITY BUSINESS ENTERPRISE AND WOMEN BUSINESS ENTERPRISE****(DIVISIONS):**

\*32/38/29#Tgx07/37/3: 4"

324/37\*14"

UR3'T 89"

"

**Description**

"

Vj g' r wtr qug' qh' yj ku' Ur gekn' Rtqxkukqp' ku' xq' ectt{ " qww' yj g' P qtvj " Ectqrlpc" F gr ctvo gpv' qh' Vtcur qtwkqpau'r qre{ 'qh'gputkpi 'bpqf kuetko kpcvqp'lp'yj g'cy ctf 'cpf 'cf o kpmkcvqp'qh'leqptcevu' hpcpegf 'lp'yj qrg'qt 'lp'r ctv'y kj 'Ucvg'hwpf u0'

**Definitions**

"

*Additional MBE/WBE Subcontractors* / Cp{ 'O DGIY DG'uwdo kwgf 'cv'yj g'vko g'qh'dkf 'yj cv'y kn'pqv' dg'wugf 'vq'o gg'vj g'Ego dlpqf 'O DGIY DG'i qcn0'P q'uwdo kwcn'qh'c'Ngwgt 'qh'kpgpv'ku'tgs wkt gf 0'

*Combined MBE/WBE Goal:* C'r qtvqp'qh'yj g'vqcn'leqptcevu'gzzr tguugf 'cu'c'r gtegpvc i g'yj cv'ku'vq' dg'r gthqto gf 'd{ 'eqo o kwgf 'O DGIY DG'uwdeqptcevu0'

*Committed MBE/WBE Subcontractor* / "Cp{ 'O DGIY DG'uwdo kwgf 'cv'yj g'vko g'qh'dkf 'yj cv'ku'dgkpi " wugf 'vq'o gg'vj g'Ego dlpqf 'O DG'IY DG'i qcn0'f{ "uwdo kuukqp'qh'c'Ngwgt 'qh'kpgpv'0'Qt'cp{ 'O DG' qt'Y DG'wugf 'cu'c'tgr mrego gpv'ht'c'r tngxkwun' 'eqo o kwgf 'O DG'qt'Y DG'ht o 0'

"

*Contract Goal Requirement* / "Vj g'cr r tqxgf 'r ctvlekr cvkqp'cv'vko g'qh'cy ctf . 'dw'pqv'i tgcvg't yj cp'yj g' cf xgtwugf 'Ego dlpqf 'O DGIY DG'eqptcevu' qcn0'

*Goal Confirmation Letter* - "Y tkvgp'f qewo gpwvqp'htqo 'yj g'F gr ctvo gpv'vq'yj g'dkf f gt'eqphkto kpi " yj g'Eqptcevu'ht'cr r tqxgf . 'eqo o kwgf 'r ctvlekr cvkqp'cnp i 'y kj 'c'htkpi 'qh'yj g'eqo o kwgf 'O DG'cpf " Y DG'ht o u0'

*Manufacturer* / "C'ht o 'yj cv'qr gtcvgu'qt'o clpvcipu'c'htcvqt { "qt'guvdrkuj o gpv'yj cv'r tqf wegu'qp'yj g' r tgo kugu' yj g'o cvgtkcn'qt'uw r rkgu'qdvclp'gf 'd{ 'yj g'Eqptcevu'0'

"

*MBE Participation (Anticipated)* - C'r qtvqp'qh'yj g'vqcn'leqptcevu'gzzr tguugf 'cu'c'r gtegpvc i g'yj cv' ku'cpvlekr cvgf 'vq'dg'r gthqto gf 'd{ 'eqo o kwgf 'O DG'uwdeqptcevu'0'

"

*Minority Business Enterprise (MBE)* / "C'ht o "egtwhkf "cu'c'F kucf xcpvc i gf "O kpatk\ / Qy pgf " Dwukpguu'Gpvgr tkug'yj tqwi j 'yj g'P qtvj 'Ectqrlpc'Wpkhkf 'Egtwhkcvqp'Rtqi tco 0'

*Regular Dealer* / "C'ht o " yj cv' qy pu" qr gtcvgu" qt" o clpvcipu'c' uqtg" y ctgj qwug" qt" qvj gt' guvdrkuj o gpv'lp'yj j lej 'yj g'o cvgtkcn'qt'uw r rkgu'tgs wkt gf 'htq' yj g'r gthqto cpeg'qh'yj g'eqptcevu'ctg' dqwi j v.'ngr v'lp'uqem'cpf 'tgi wctn' 'uqf 'vq'yj g'r vdrke'lp'yj g'wuwcn'leqvtug'qh'dwukpguu'0'C'tgi wct' f gcrgt'gpi ci gu'lp.'cu'ku'r tlpekr cn'dwukpguu'cpf 'lp'ku'qy p'pco g.'yj g'r wtej cug'cpf 'ucrg'qt'ngcug'qh' yj g'r tqf weu'lp's wguukp0'C'tgi wct'f gcrgt'lp'uwej 'dwmi'kgo u'cu'uggn'ego gpv.'i tctxgn'uqpg.'cpf " r gttqrgwo "r tqf weu'pggf "pqv'nggr "uwej "r tqf weu'lp'uqem'kh'k'y qy pu'cpf "qr gtcvgu'f kwt kdwkpf "

39DR06T0: "( '39DR06T0 3"

gs wkr o gpv'hqt"vj g'r tqf wewu0"Dtqngtu"cpf "r cemci gtu'ctg'pqv'tgi ctf gf "cu'o cpwlcwxtgtu"qt'tgi wxt " f gcrgtu'y kj lp'vj g'o gcplpi "qh'vj ku'ugevlp0"

North Carolina Unified Certification Program (NCUCP)" /" C" rtqi tco " vj cv" rtqxf gu" eqo rtgj gpukxg" ugtxlegu" cpf " lphqto cvkqp" vq" crr rdecpu" hqt" O DGIY DG" egtwlecvtqp0" Vj g'O DGIY DG"rtqi tco "hmqy u"vj g"uco g"tgi wrcvlpu"cu"vj g"hgf gtcn'F kcf xcpvi gf "Dwulpguu" Gpvgr tkug" \*F DG+r tqi tco "lp"ceeqtf cpeg'y kj '6; 'EHI"Rctv'480"

United States Department of Transportation (USDOT)"/"Hgf gtcn'ci gpe{ "tgr qpukdrg" hqt "kuwlp i " tgi wrcvlpu" \*6; 'EHI"Rctv'48+"cpf "qh'lecni wkf cpeg' hqt "vj g'F DG'r tqi tco 0"

WBE Participation (Anticipated) - C"r qt vqp"qh'vj g"qvcn'eqpvtcev."gzt tguugf "cu'c'r gtegpvi g"vj cv" ku'cpvlek cvgf "q"dg'r gthqto gf "d{ "eqo o kwgf "Y DG'uweqpvtcevqt \*u0"

Women Business Enterprise (WBE) /"C'ht o 'egt wkgf "cu'c'F kcf xcpvi gf "Y qo gp/Qy pgf "Dwulpguu" Gpvgr tkug"vj tqwi j "vj g'P qtj "Ectqnc "Wpkhgf "Egt wlecvtqp"Rtqi tco 0"

### Forms and Websites Referenced in this Provision

"

Payment Tracking System"/"Qp/ rpg"u{ ugo "lp"y j lej "vj g'Eqpvtcevqt"gpvtu"vj g'r c{ o gpw'o cf g"vq" O DG" cpf " Y DG" uweqpvtcevqtu" y j q" j cxg" r gthqto gf " y qtm' qp" vj g" r tqlgex0" j wr u4lcr r udf qv0ncvgfpe0uIXgpf qt IRc{ o gpvVtcenlp i "

FDG/KU"Subcontractor Payment Information"/ Hqto "hqt"tgr qt vlp i "vj g'r c{ o gpw'o cf g"vq"cmi" O DGIY DG'ht o u" y qtm'lp i " qp" vj g" r tqlgex0" " Vj ku" hqt o " ku" hqt " r cr gt" dkf " r tqlgewu" qpn0"" j wr u4leppgevpf qv0 qx lr tqlgewuleqpvtwvlp iEqpvtwvlp' 42Hqto uF DG' 42O DG' 42Y DG' ' 42Tgr nrego gpv 42Tgs wguv 42Hqto 0 f h"

TH/3 MBE/WBE Replacement Request Form"/ Hqto "hqt"tgr nelp i "c"eqo o kwgf "O DG"qt "Y DG0 j wr 4leppgevpf qv0 qx lr tqlgewuleqpvtwvlp iEqpvtwvlp' 42Hqto uF DG' 42O DG' 42Y DG' ' 42Tgr nrego gpv 42Tgs wguv 42Hqto 0 f h"

UCH'Subcontract Approval Form /"Hqto "tgs wkgf "hqt"cr r tqxcn'vq"uwdrgv'vj g'eqpvtcev0"" j wr 4leppgevpf qv0 qx lr tqlgewuleqpvtwvlp iEqpvtwvlp' 42Hqto uF DG' 42O DG' 42Y DG' ' 42Hqto ' 42Tgx0 4242340 kr "

IE/3"Joint Check"Notification Form"/"Hqto "cpf "rtqegf wtgu'hqt"lqkp'ej gemipq wlecvtqp0"Vj g'hqto " cev'u'cu"y tkvpg"lqkp'ej gem'ci tggo gpv'co qpi "vj g'r ctv'gu'r tqxf lpi "hwn'cpf "rtqo r v'f kuenqwtg'qh" vj g"gzr gevfg "wug"qh'lqkp'ej gem0" j wr 4leppgevpf qv0 qx lr tqlgewuleqpvtwvlp iEqpvtwvlp' 42Hqto uF DG' 42Ej gemi 42P qvkh lecvtqp' 42Hqto 0 f h"

Letter of Intent /"Hqto "uli pgf "d{ "vj g'Eqpvtcevqt"cpf "vj g'O DGIY DG'uweqpvtcevqt."o cpwlcwxtgtu" qt'tgi wxt "f gcrgt"vj cv'chht o u"vj cv'c'r qt vqp"qh'uckf "eqpvtcev'ku'i qlpi "q"dg'r gthqto gf "d{ "vj g'uli pgf " O DGIY DG'hqt"vj g'guko cvgf "co qwpv'dcugf "qp's wcpvklgu"cpf "wpl'r tlegu+rkugf "cv'vj g'vko g'qh'dkf 0"

39DR06T0: "( '39DR06T0 3"

j wr <leqppgeVpef qvfi qx lrgwki lNgvEgptcniNgwgt' 42qh 42Kvpgv' 42vq' 42Rgthqto ' 42cu' 42c' 42Uwdeqptcevtqtf h' "

*Listing of MBE and WBE Subcontractors Form* - Hqto 'lqt'gpvtlpi 'O DGIY DG'uwdeqptcevtu'qp" c'r tqlgev'y cv'y kn'o gg'v'y g'Ego dlpf 'O DGIY DG'i qcnf"Vj ku'hqto 'ku'hq' r cr gt 'dlf u'qpnf 'O' j wr <leqppgeVpef qvfi qx lo wplek crkkguIdk' 42Rtqr qucn' 42hqt' 42NI C' 42Eqvpgv2; ' 42O DG/Y DG' 42Uwdeqptcevtu' 42\*Ucvg+ff qez "

*Subcontractor Quote Comparison Sheet* - Urtgcf uj gg'v'hq'uj qy kpi "cm'uwdeqptcevt's wqvgu'kp'v'y g" y qtn'ctgcu'y j gtg'O DGu'cpf "Y DGu's wqvgf "qp'v'y g'r tqlgeV"Vj ku'uj gg'v'ku'uwdo kwgf 'y kj 'i qqf 'h'kj " ghqtv'r cenci gu' j wr <leqppgeVpef qvfi qx ldwupguulUo cmDwupguulF qewo gpwIF DG' 42Uwdeqptcevt' 42S wqvg ' 42Eqo r ctuqp' 42Gzco r rgn'ni "

### Combined MBE/WBE Goal

"

Vj g'Ego dlpf 'O DGIY DG'I qcn'hq'v'y ku'r tqlgev'ku'7.0 %"

"

Vj g'Ego dlpf 'I qcn'y cu'guxdrkuj gf "wkrk kpi "v'y g'hqny kpi "cpvlek cvgf "r ctvlek cvkqp'hq'O kqtkv{ " Dwupguu'Gpvgr tkugu'cpf "Y qo gp'Dwupguu'Gpvgr tkugu<"

"

\*C+" O kqtkv{ "Dwupguu'Gpvgr tkugu'3.0 %"

"

\*3+" *If the anticipated MBE participation is more than zero.* 'v'y g'Eqptcevt'uj cm'gzgtekug" cm'pgeguuct { "cpf "tgcupcdng"uvg u'vq"gpwut g'v'y cv'O DGu'r ctvlek cvg"kp"cv'rgcu'v'y g" r gtegpv'qh'v'y g'eqptcev'cu'ugv'hq'v'y "cdqxfG'

"

\*4+" *If the anticipated MBE participation is zero.* 'v'y g'Eqptcevt'uj cm'o eng'cp'ghqtv'vq" tgetwks" cpf " wug" O DGu' f wtkpi " v'y g" r gthqto cpeg" qh' v'y g" eqptcev' " Cp{ " O DG" r ctvlek cvkqp'qdvclpgf 'uj cm'dg'tgr qtvgf 'vq'v'y g'F gr ctvo gpv'0'

"

\*D+" Y qo gp'Dwupguu'Gpvgr tkugu'4.0 %"

"

\*3+" *If the anticipated WBE participation is more than zero.* 'v'y g'Eqptcevt'uj cm'gzgtekug" cm'pgeguuct { "cpf "tgcupcdng"uvg u'vq"gpwut g'v'y cv'Y DGu'r ctvlek cvg"kp"cv'rgcu'v'y g" r gtegpv'qh'v'y g'eqptcev'cu'ugv'hq'v'y "cdqxfG'

"

\*4+" *If the anticipated WBE participation is zero.* 'v'y g'Eqptcevt'uj cm'o eng'cp'ghqtv'vq" tgetwks" cpf " wug" Y DGu' f wtkpi " v'y g" r gthqto cpeg" qh' v'y g" eqptcev' " Cp{ " Y DG" r ctvlek cvkqp'qdvclpgf 'uj cm'dg'tgr qtvgf 'vq'v'y g'F gr ctvo gpv'0'

"

Vj g'Dkf f gt'ku'tgs wktgf "vq"uwdo k'qpnf "r ctvlek cvkqp"vq"o gg'v'y g'Ego dlpf 'O DGIY DG'I qcnf"Vj g' Ego dlpf 'I qcn'o c{ "dg"o gv'd{ "uwdo k'kpi "cm'O DG'r ctvlek cvkqp."cm'Y DG'r ctvlek cvkqp."qt" c" eqo dlpvclpgf'qh'O DG'cpf "Y DG'r ctvlek cvkqp'0'

**Directory of Transportation Firms (Directory)**

"

Tgcn'vko g'kphqto cvkqp'ku'cxckcdrg'cdqwh'ht o u'f qlpi 'dwukpguu'y kj 'vj g'F gr ctvo gpv'cpf 'ht o u'vj cv' ctg'egt vkhgf 'vj tqwi j 'P E W E R'kp'vj g'F k gevqt { 'qh'Vtcur qtvcvkp'ht o u'Qpn { 'ht o u'kf gpvkhgf 'kp'vj g' F k gevqt { 'cu'O DG'cpf 'Y DG'egt vkhgf 'uj cni'dg'wugf 'vq'o gg'vj g'Ego dkgf 'O DG'I'Y DG'i qcn'Vj g' F k gevqt { 'ecp'dg'hqwpf 'cv'vj g'hqny lpi 'rkn'0

j wr u'ly y y Qdu'peu qxIXgpf qtF k gevqt { lf ghcwu'j vo n'

"

Vj g'rkvpi 'qh'cp'kpf kxf wcn'ht o 'kp'vj g'F k gevqt { 'uj cni'pqv'dg'eqpwtwgf 'cu'cp'gpf qtugo gpv'qh'vj g' ht o u'ecr cdkk { 'vq'r gthqto 'egtckp'y qtn'0

"

**Listing of MBE/WBE Subcontractors**

"

Cv'vj g'vko g'qh'dkf . "dkf fgtu'uj cni'wdo k'cni'O DG'cpf 'Y DG'r ctvlekr cvkqp'vj cv'vj g' { 'cpvlekr cvg'vq'wug' f wtkpi 'vj g'rk'g'qh'vj g'eqpvtcev'0'Qpn { 'vj qug'kf gpvkhgf 'vq'o gg'vj g'Ego dkgf 'O DG'IY DG'i qcn'y kni' dg'eqpukf gtgf "eqo o kwgf . "gxgp"vj qwi j "vj g'rkvpi 'uj cni'kpenwf g" dqvj "eqo o kwgf "O DG'IY DG' uwdeqptcevqtu" cpf " cf f k kqpcn' O DG'IY DG' uwdeqptcevqtu' Cp { " cf f k kqpcn' O DG'IY DG'uwdeqptcevqt'r ctvlekr cvkqp'cdqxg'y g'i qcn'y kni'hqny "vj g'dcpn'pi "i wkf gkpgu'hqwpf " gnugy j gtg'lp'vj ku'r tqxkukp0'Cni'vj gt'cf f k kqpcn'O DG'IY DG'uwdeqptcevqt'r ctvlekr cvkqp'wdo kwgf " cv'vj g'vko g'qh'dkf 'y kni'dg'wugf 'vqy ctf 'vj g'F gr ctvo gpw'q'xgtcmitceg/pgwtcn'i qcn'0Qpn { 'vj qug'ht o u' y kj 'ewtgpv'O DG'cpf 'Y DG'egt vkhc'cvkqp'cv'vj g'vko g'qh'dkf "qr gplpi 'y kni'dg'ceegr vcdrg'hqt'rkvpi " kp'vj g'dkf fgt'u'wdo kwn'qh'O DG'cpf "Y DG'r ctvlekr cvkqp0'Vj g'Eqpvtcevqt'uj cni'kpf kecvg'vj g'hqny lpi 'tgs wktgf 'kphqto cvkqp<

"

\*C+ " Grgvqtple'Dkf u"

"

Dkf fgtu'uj cni'wdo k'c'rkvpi 'qh'O DG'cpf 'Y DG'r ctvlekr cvkqp'kp'vj g'cr r tqr tkvg'ugevqp'qh' Gzr gf kg. 'vj g'dkf fgt'pi 'uqhy ctg'qh'Dkf "Gzr tgu'0

"

\*3+ " Uwdo k'vj g'pco gu'cpf 'cf f tguugu'qh'O DG'cpf "Y DG'ht o u'kf gpvkhgf 'vq'r ctvlekr cvg' kp'vj g'eqpvtcev'0'K'vj g'dkf fgt'wugu'vj g'wr f cvgf 'rkvpi 'qh'O DG'cpf "Y DG'ht o u'lj qy p" kp'Gzr gf kg. 'vj g'dkf fgt'o c { 'wug'vj g'f tqr f qy p'o gpw'vq'ceegui'vj g'pco g'cpf 'cf f tguu' qh'vj g'ht o u'0

"

\*4+ " Uwdo k'vj g'eqpvtcev'rkpg'pwo dgtu'qh'y qtn'vq'dg'r gthqto gf 'd { 'gcej 'O DG'cpf "Y DG' ht o 0"Y j gp'pq'hi wtu'qt'ht o u'ctg'gpvtgf . 'vj g'dkf fgt'y kni'dg'eqpukf gtgf "vq'j cxg" pq'O DG'qt'Y DG'r ctvlekr cvkqp0'

"

\*5+ " Vj g'dkf fgt'uj cni'dg'tgur qpukdrg'hqt'gputkpi 'vj cv'vj g'O DG'cpf "Y DG'ctg'egt vkhgf " cv'vj g'vko g'qh'dkf 'd { 'ej gen'pi 'vj g'F k gevqt { 'qh'Vtcur qtvcvkp'ht o u'0'K'vj g'ht o 'ku' pqv'egt vkhgf 'cv'vj g'vko g'qh'vj g'dkf /rgw'pi . 'vj cv'O DG'qt'Y DG'u'r ctvlekr cvkqp'y kni' pqv'eqwpv'vqy ctf u'cej kxkpi 'vj g'Ego dkgf 'O DG'IY DG'i qcn'0

"



39DR06T0: "( '39DR06T0 3"

\*D+" Rcr gt"Dkf u"

"

\*3+ *If the Combined MBE/ WBE goal is more than zero,*

"

\*c+" Dkf fgtu."cv'vj g'vko g'vj g'dkf "r tqr qucn'ku"uwo kwgf . "uj cml'uwo k'c'rkvpi "qh" O DGIY DG'r ctvlekr cvkqp. "kpenw kpi "vj g'pco gu'cpf "cfftguugu"qp"Listing of MBE and" WBE Subcontractors" eqpvckpgf "gnugy j gtg" kp" vj g" eqpvcey f qewo gpw'kp"qtf gt"ht"vj g'dkf "vq"dg"eqpukf gtgf "tgr qpukxg0"Dkf fgtu'uj cml' kpf lecvg"vj g"vqcn'f qmct"xcnwg"qh'vj g"O DG"cpf "Y DG'r ctvlekr cvkqp"ht"vj g" eqpvcey0

"

\*d+" Kf'dkf fgtu"j cxg"pq"O DG"qt"Y DG'r ctvlekr cvkqp. "vj g{ "uj cml'kpf lecvg"vj ku"qp" vj g"Listing of MBE and WBE Subcontractors"d{ "gpvgtkpi "vj g'y qtf "op qpgö" qt"vj g"pwo dgt"ö20""Vj ku"htto "uj cml'dg"eqo r rvgf "kp"ku"gpvktgv{0""**Blank forms will not be deemed to represent zero participation.**" " Dkf u" uwo kwgf "vj cv'f q"pqv"j cxg"O DG"cpf "Y DG'r ctvlekr cvkqp"kpf lecvg"qp"vj g" cr r tqr tlcvg"htto "y kmpqv'dg'tgcf "r wdrkn{ "f wtkpi "vj g"qr gpki "qh'dkf u0"Vj g" Fgr ctvo gpv'y kmpqv'eqpukf gt"vj gug'dkf u'ht"cy ctf "cpf "vj g'r tqr qucn'y kml'dg" tglgevgt0

"

\*e+" Vj g'dkf fgt"uj cml'dg'tgr qpukdrg"ht"gpwtkpi "vj cv'vj g"O DGIY DG'ku'egt vkgf " cv'vj g'vko g'qh'dkf "d{ "ej genkpi "vj g'F kgevgt { "qh'Vtcur qt cvkqp"htto u0"Kf'vj g" htto "ku"pqv'egt vkgf "cv'vj g'vko g'qh'vj g'dkf /rgvki . "vj cv'O DGai"qt"Y DGai" r ctvlekr cvkqp"y kmpqv'eqwpv"vqy ctf u'cej lxxkpi "vj g'Ego dlpkf "O DGIY DG" i qcn0

"

\*4+ *If the Combined MBE/WBE Goal is zero, gpvtkgu"qp"vj g"Listing of MBE and" WBE Subcontractors"ctg"pqv'tgs vktgf "ht"vj g" | gtq"i qcn"j qy gxgt"cp{ "O DG"qt"Y DG" r ctvlekr cvkqp"vj cv'ku'cej lxxgf "f wtkpi "vj g'r tqlgv'uj cml'dg'tgr qtvgt "kp'ceeqtfcpeg'y kj " tgs vktgo gpw'eqpvckpgf "gnugy j gtg"kp"vj g'ur geknr tqxkukp0*

## MBE or WBE Prime Contractor

"

Y j gp"c'egt vkgf "O DG"qt"Y DG'htto "dkf u"qp"c'eqpvcey"vj cv'eqpvkpu"c'Ego dlpkf "O DGIY DG'I qcn" vj g'htto "ku'tgur qpukdrg"ht"o ggkpi "vj g'i qcnqt"o cnkpi "i qqf "hckj "ghhtw"vq"o gg'vj g'i qcn"lwu'hkng" cp{ "qvj gt"dkf fgt0"kp"o quv'ecugu."c"O DG"qt"Y DG'dkf fgt"qp"c'eqpvcey"y kml'o gg'vj g'Ego dlpkf " O DGIY DG'i qcnld{ "xkvwg"qh'vj g'y qtn'kw'r gthqto u"qp"vj g'eqpvcey"y kj "ku"qy p"htegu0"J qy gxgt." cml'vj g"y qtn'vj cv'ku'r gthqto gf "d{ "vj g"O DG"qt"Y DG'dkf fgt"cpf "cp{ "qvj gt"uko kctn{ "egt vkgf " uwdeqpvceyqtu"y kml'eqwpv"vqy ctf "vj g'i qcn0"Vj g"O DG"qt"Y DG'dkf fgt"uj cml'rkv'kuqht'crqpi "y kj " cp{ "O DG"qt"Y DG'uwdeqpvceyqtu."h'cp{ . "kp"qtf gt"vq"tgegkxg"etgf k'vqy ctf "vj g'i qcn0

"

O DGIY DG'r tko g'eqpvceyqtu"uj cml'cuq"hmuy "Ugevkpu"C"qt"D'rkvgf "wpf gt"Listing of MBE/WBE Subcontractors"lwu'cu"c"ppp/O DGIY DG'dkf fgt"y qwf0

**Written Documentation – Letter of Intent**

"

Vj g'dkf f gt "uj cml'wdo k'y tkwgp'f qewo gpvcvkp'ltq "gcej "O DGIY DG"vj cv'y kn'dg'wugf "vq"o gg'v'j g" Eqo dlp'gf "O DGIY DG"i qcn' qh' vj g" eqp'tcev." l'p'f k'ecv'pi "vj g" d'kf f gt'at' eqo o ko gpv' vq" wug" vj g" O DGIY DG'lp'vj g'eqp'tcev'Vj k'f qewo gpvcvkp'uj cml'dg'wdo kwgf 'qp'vj g'F gr ctwo gpw'ltqto 'kwgf " Letter of Intent' "

"

Vj g'f qewo gpvcvkp'uj cml'dg't geg'k'gf "lp'vj g'qh'leg'qh'vj g'Gpi kpggt'pq'rcvgt'vj cp'4-22'r 0'qh'vj g' h'k'j "ecr'p'f ct'f c{ "h'q'm'y l'pi "qr g'p'k'pi "q'h'd'k'f u."w'p'g'u'v'j g'h'k'j "f c{ "h'c'm'i'q'p'U'c'w't'f c{. "U'w'p'f c{ "q't'c'p' q'h'lek'n'uc'v'g'j q'r'k'f c{ 0"l'p'vj c'v'uk'w'c'v'k'p. "k'k'f w'g'lp'vj g'qh'leg'qh'vj g'Gpi kpggt'pq'rcvgt'vj cp'32-22" c'0'0'q'p'vj g'p'g'z'v'q'h'lek'n'uc'v'g'd'w'ul'p'g'u'f c{ 0' "

K'f'vj g'd'kf f gt "h'c'k'u'v'q"u'wdo k'v'j g'Ngwgt'q'h'k'p'v'p'lt'qo "gcej "eqo o kwgf "O DG"cp'f "Y DG"v'q'd'g'wugf " v'q'y c't'f "vj g'Eqo dlp'gf "O DGIY DG"i qcn'q't "h'v'j g'h'q'to "k'u'l'p'eqo r'rg'v'g'k'g'0'd'q'v' "u'k'i p'c'w't'g'u'c't'g'p'q'v' r't'g'u'g'p'v'."vj g'O DGIY DG'r c't'v'ek'r c'v'k'p'y k'n'p'q'v'eq'w'p'v'v'q'y c't'f "o gg'v'k'pi "vj g'Eqo dlp'gf "O DGIY DG" i qcn'K'f'vj g'ic'm'q'h'v'j k'u'r c't'v'ek'r c'v'k'p'f t'q'r u'v'j g'eqo o ko gpv'd'g'u'y "vj g'Eqo dlp'gf "O DGIY DG"i qcn" vj g'Eqp'tcev'q't'uj cml'wdo k'g'x'k'f g'peg'q'h'i q'q'f "h'c'k'j "g'h'q't'w'lt'q't'vj g'i qcn'p'q'v'o g'v'eqo r'rg'v'g' "lp'k'u" g'p'v'k'g'v'."v'q'vj g'Gpi kpggt'pq'rcvgt'vj cp'4-22'r 0'qh'vj g'g'k'i j vj "ecr'p'f ct'f c{ "h'q'm'y l'pi "qr g'p'k'pi "q'h' d'k'f u."w'p'g'u'v'j g'g'k'i j vj "f c{ "h'c'm'i'q'p'U'c'w't'f c{. "U'w'p'f c{ "q't'c'p'q'h'lek'n'uc'v'g'j q'r'k'f c{ 0"l'p'vj c'v'uk'w'c'v'k'p. " k'k'f w'g'lp'vj g'qh'leg'qh'vj g'Gpi kpggt'pq'rcvgt'vj cp'32-22" c'0'0'q'p'vj g'p'g'z'v'q'h'lek'n'uc'v'g'd'w'ul'p'g'u'f c{ 0' "

"

**Banking MBE/WBE Credit**

K'f'vj g'eqo o kwgf "O DGIY DG'r c't'v'ek'r c'v'k'p"u'wdo kwgf "gzeggf u'vj g'c'n' g'd't'c'le'u'wo "q'h'vj g'Eqo dlp'gf " O DGIY DG"i qcn'd{ "&3.222"q't"o q't'g."vj g'gzeg'g'u'y k'n'd'g'r r'eg'f "q'p'f gr q'uk'd{ "vj g'F gr ctwo gpv'lt'q't" h'w'w't'g'w'ug'd{ "vj g'd'kf f gt'0"U'gr c't'c'v'g'c'ee'q'w'p'u'y k'n'd'g'o c'k'p'c'k'p'gf "lt'q't'O DG"cp'f "Y DG'r c't'v'ek'r c'v'k'p" cp'f "vj g'ug'o c{ "c'ee'w'o w'rc'v'g'lt'q't" c'r g't'k'q'f "p'q'v'v'q'gzeggf "46"o q'p'v'j u'0' "

"

Y j gp'vj g'c'r r c't'g'p'v'lt'q't'g'u'v't'g'ur q'p'uk'x'g'd'kf f gt "h'c'k'u'v'q"u'wdo k'w'w'h'lek'p'v'r c't'v'ek'r c'v'k'p'd{ "O DG"cp'f " Y DG'h't'o u'v'q"o gg'v'vj g'c'f x'g't'w'ug'f "i qcn'cu'r c't'v'q'h'vj g'i q'q'f "h'c'k'j "g'h'q't'v'."vj g'F gr ctwo gpv'y k'n' eq'p'uk'f gt'c'm'y l'pi "vj g'd'kf f gt'v'q'y k'j f t'c'y "h'w'p'f u'v'q"o gg'v'vj g'Eqo dlp'gf "O DGIY DG"i qcn'cu'lt'q't'pi "cu" vj g't'g'c't'g'c'f g's w'c'v'g'h'w'p'f u'c'x'c'k'c'd'g'lt'q'to "vj g'd'kf f gt'at'O DG"cp'f "Y DG'd'c'p'n'ic'ee'q'w'p'u'0' "

"

**Submission of Good Faith Effort**

"

K'f'vj g'd'kf f gt "h'c'k'u'v'q"o gg'v'q't'gzeggf "vj g'Eqo dlp'gf "O DGIY DG"i qcn'vj g'c'r r c't'g'p'v'lt'q't'g'u'v't'g'ur q'p'uk'x'g" d'kf f gt "uj cml'wdo k'v'q'vj g'F gr ctwo gpv'f qewo gpvcvkp'q'h'c'f g's w'c'v'g'i q'q'f "h'c'k'j "g'h'q't'w'o c'f g'v'q't'gcej " vj c'v'ur g'ek'h'e"i qcn'0' "

"

Q'p'g'eqo r'rg'v'g'ug'v'cp'f "q'p'g'g'g'ev't'q'p'le"eq'r { (in .PDF format)"q'h'vj k'u'l'p'lt'q'to c'v'k'p'uj cml'dg't geg'k'gf " lp'vj g'qh'leg'qh'vj g'Gpi kpggt'pq'rcvgt'vj cp'4-22'r 0'qh'vj g'h'k'j "ecr'p'f ct'f c{ "h'q'm'y l'pi "qr g'p'k'pi "q'h' d'k'f u."w'p'g'u'v'j g'h'k'j "f c{ "h'c'm'i'q'p'U'c'w't'f c{. "U'w'p'f c{ "q't'c'p'q'h'lek'n'uc'v'g'j q'r'k'f c{ 0"l'p'vj c'v'uk'w'c'v'k'p. "k' k'f w'g'lp'vj g'qh'leg'qh'vj g'Gpi kpggt'pq'rcvgt'vj cp'32-22" c'0'0'q'p'vj g'p'g'z'v'q'h'lek'n'uc'v'g'd'w'ul'p'g'u'f c{ 0' "

"

39DR06T0: "( '39DR06T0 3"

P qvg< " Y j gtg" yj g" lphqto cvkqp" uwd o kwgf " kpenmf gu" tgr gvkqwu" uqrekcvcqp" rgwgtu" k' y km' dg" ceegr vcdrg"vq"uwd o k'c"tgr tguqpcvkg"rgwgt"cnpi "y kj "c"fkmdwvqp"rkuv'qh'yj g"ht o u"vj cv'y gtg" uqrekgf O' " F qewo gpvcvqp" qh' O DGIY DG" s wqvcvqpu" uj cml' dg" c" r ctv' qh' yj g" i qqf " hckj " ghqt v' uwd o kvcn' " Vj ku' f qewo gpvcvqp" o c{ " kpenmf g" y tkvgp" uwd eqpvtcevqt" s wqvcvqpu. " vgrgr j qpg" iqi " pqvcvqpu"qh'xgt dcn's wqvcvqpu. "qt"qvj gt"v{r gu'qh's wqvcvqp" f qewo gpvcvqp0"

### Consideration of Good Faith Effort for Projects with a Combined MBE/WBE Goal More Than Zero

Cf gs wcvg' i qqf " hckj " ghqt u' o gcp" yj cv' yj g" dlf f gt" vq qn' cnipgeguuct { " cpf " tguqpcdrg" ugr u' vq" cej kxg" yj g" i qcn' y j lej . " d{ " yj gk" ueqr g. " kvgpukv{ . " cpf " cr r tqr tkvgpguu. " eqwf " tguqpcdn{ " dg" gzt gevgf " vq" qdvcvqpu" uwhlekgpv' O DGIY DG" r ctvlekv cvkqp0" Cf gs wcvg' i qqf " hckj " ghqt u' cnq" o gcp" yj cv' yj g" dlf f gt" cevkgm{ " cpf " ci i tguukgm{ " uqwi j v' O DGIY DG" r ctvlekv cvkqp0" " O gtg" *pro forma* " ghqt u' ctg" pqv' eqpukf gtgf " i qqf " hckj " ghqt u0"

Vj g' F gr ctwo gpv' y kmleqpukf gt" yj g' s wcrkv{ . " s wcpvkv{ . " cpf " kvgpukv{ " qh' yj g' f khtgtpv' nkp f u' qh' ghqt u' c" dlf f gt" j cu' o cf g0" Nkvgf " dgr y " ctg" gzt o r rgu' qh' yj g' v{r gu' qh' cevkvqpu" c" dlf f gt" y km' veng" kp" o cnpi " c" i qqf " hckj " ghqt v' vq" o gg' v' yj g" i qcn' cpf " ctg" pqv' kvgpf gf " vq" dg" gzenwukg" qt" gzt cwukg. " pqt " ku' kv" kvgpf gf " vq" dg" c" o cpf cvqt { " ej gemku0"

\*C+ " Uqrekcvcqp" yj tqwi j " cml' tguqpcdrg" cpf " exckcdrg" o gcpu" \*gf 0 cwpgf cpeg" cv' r tg/ dlf " o gg' v' u. " cf xgt vukpi . " y tkvgp" pvglegu. " wug" qh' xgt hckdrg" grgvtqple" o gcpu" yj tqwi j " yj g" wug" qh' yj g" P EF QV' F kgevt { " qh' Vtcur qtvcvqp" Hk o u" v' yj g" kvgt guv' qh' cml' egt vkgf " O DGuIY DGu" yj cv' ctg" cnq" r tgs wcrkvkgf " uwd eqpvtcevqtu0" Vj g" dlf f gt" o wuv' uqrekv' yj ku' kvgt guv' yj kj kp" cv' r gcu' 32" f c{ u' r tkt " vq" dlf " qr gplpi " vq" cnqy " yj g" O DGuIY DGu" vq" tgr qpf " vq" yj g" uqrekcvcqp0" Uqrekcvcqp" uj cml' r tqxkf g" yj g" qr r tqwvkv{ " vq" O DGuIY DGu" y kj kp" yj g" F kxkqp" cpf " uwtqwpf lpi " F kxkqp" yj g" yj g" r tqlgv' ku' mecvgf 0" Vj g" dlf f gt" o wuv' f gvt o kpg" y kj " egtvcvkv{ " h' yj g' O DGuIY DGu" ctg" kvgt guvgf " d{ " vcnpi " cr r tqr tkvg" ugr u' vq" hqny " wv " kpkcn' uqrekcvcqp0"

\*D+ " Ugrgcvpi " r qtvcvqp" qh' yj g" y qtm' vq" dg" r gthqto gf " d{ " O DGuIY DGu" kp" qtf gt" vq" kpetgcug" yj g" r hngnj qqf " yj cv' yj g" Ego dlpf " O DGIY DG" i qcn' y km' dg" cej kxgf 0"

\*3+ " Y j gtg" cr r tqr tkvg. " dt gcn' qw' eqpvtcev' y qtm' kgo u' kpvq" geqpqo lecm{ " hgcukdrg" vpkv" vq" hckkcvg" O DGIY DG" r ctvlekv cvkqp. " gxgp" y j gp" yj g" r tko g" eqpvtcevqt" o ki j v' qvj gty kug" r tghg" vq" r gthqto " yj g" y qtm' kgo u' y kj " ku' qy p" hqtegu0"

\*4+ " P gi qkvvg" y kj " uwd eqpvtcevqtu" vq" cuwo g" r ctv' qh' yj g" tgr qpukdkv{ " vq" o gg' v' yj g" cf xgt vugf " i qcn' y j gp" yj g" y qtm' vq" dg" uwdrgv' kpenmf gu" r qvgpvkn' hqt " O DGIY DG" r ctvlekv cvkqp" \*4pf " cpf " 5<sup>th</sup> " vgt " uwd eqpvtcevqtu0"

\*E+ " Rtqxf lpi " kvgt guvgf " egt vkgf " O DGuIY DGu" yj cv' ctg" cnq" r tgs wcrkvkgf " uwd eqpvtcevqtu" y kj " cf gs wcvg" lphqto cvkqp" cdq w' yj g' r rpu. " ur gekkcvkvqpu. " cpf " tgs wkt go gpw' qh' yj g' eqpvtcev' kp" c" vko gm{ " o cpgt " vq" cuukv' yj go " kp" tgr qpf lpi " vq" c" uqrekcvcqp0"

\*F+ " \*3+ " P gi qkvvpi " kp" i qqf " hckj " y kj " kvgt guvgf " O DGuIY DGu0" " K' ku' yj g" dlf f gt u'"

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tgur qpukdkk{\ 'vq'o cng'c'r qtvkp'qh'v' g'y qtnicxckrdng'vq'O DGIY DG'wdeqptcevtu"  
 cpf "uwr r rgtu"cpf "vq'ugrgev'v' qug'r qtvkpu'qh'v' g'y qtniq' "o cvgtkcl'pggf u'eqpukngpv"  
 y kj " vj g" cxckrdng" O DGIY DG'wdeqptcevtu" cpf " uwr r rgtu." uq" cu" vq" hckkxcvg"  
 O DGIY DG" r ctvlekr cvkqp0" " Gxkf gpeg" qh' uwej " pgi qvkvkp" kpenf gu" vj g" pco gu."  
 cff tguugu." cpf " vgrgr j qpg" pwo dgtu" qh' O DGulY DGu" vj cv" y gtg" eqpukf gtgf =  
 c'f guetkr vkp'qh'v' g'kphqto cvkqp'r tqxkf gf "tgi ctf kpi "vj g'r rcpu'cpf "ur gekkccvkpu'hqt"  
 vj g'y qtniugrgev' hqt'wdeqptcevpki -cpf "gxkf gpeg'cu'vq'y j { 'cf f kklpcn'ci tggg gpw"  
 eqwf "pqv'dg'tgcej gf "hqt'O DGulY DGu'vq'r gthqto 'vj g'y qtn0'

"

\*4+'' C" dkl f gt" wulpi "i qqf " dwulpguu" lwf i o gpv' y qwf "eqpukf gt" c" pwo dgt" qh' hcevtu"  
 kp'pgi qvkvpi " y kj " wdeqptcevtu." kpenf kpi " O DGIY DG" wdeqptcevtu." cpf "  
 y qwf "cng" c'hkto au'r tleg" cpf " ecr cdkkkgu" cu" y gm' cu" vj g" cf xgt vkugf "i qcn' kpq"  
 eqpukf gtcvkp0"J qy gxgt.'vj g'hcev'v' cv'v' gtg'o c { 'dg'uqo g'cf f kklpcn'equu'kpxqrgf "  
 kp'hkpf kpi "cpf "wulpi "O DGulY DGu'ku'pqv'kp'kugrh'uw'hkkgpv'tgcuqp'hqt" c' dkl f gt au"  
 hckwtg'vq'o ggv'v' g'cf xgt vkugf "i qcn'cu'rupi "cu'uwej "equu'ctg'tgcuqpcdng0"Cnuq.'vj g"  
 cdkk{\ "qt'f gukg'qh'c'r tko g'eqptcevt'vq'r gthqto 'vj g'y qtniqh'c'eqptcevy' kj "ku'qy p"  
 qti cpk cvkqp" f qgu'pqv'tgngxg" vj g" dkl f gt" qh'v' g'tgur qpukdkk{\ 'vq'o cng"i qqf "hckj "  
 ghqtu0'Dkl f kpi "eqptcevtu'ctg'pqv' j qy gxgt. 'tgs vkt gf 'vq'ceegr vj k j gt 's wqvgu'ltqo "  
 O DGulY DGu'kh'v' g'r tleg" f hgt gpeg'ku'gzeguukxg"qt'wptgcuqpcdng0'

"

\*G+'' Pqv' tglgev'pi " O DGulY DGu" cu" dgkpi " wps wcnkkgf " y kj qw' uqwpf " tgcuppu" dcugf " qp"  
 c"vj qtwi j "kpxguki cvkqp"qh'v' gk" ecr cdkkkgu0"Vj g'dkl f gt au"ucpf kpi "y kj kp'ku'kpf wut { ."  
 o go dgtuj kr " kp" ur gekk" i tqwr u." qti cpk cvkpu." qt " cuukecvgu" cpf " r qkklcni' qt " uqekni'  
 chhckcvkpu" hqt'gzco r rg." wplqp"xu0'pqp/wplqp" go r iq { gg'ucwuu'ctg'pqv'rgi kko cvg'ecwugu"  
 hqt'vj g'tglgev'kp'qt'pqp/uqkckcvkqp'qh'dkl u'lp'vj g'dkl f gt au'ghqtu'vq'o ggv'v' g'r tqlgev'i qcn0'

"

\*H+'' O cnkpi " ghqtu" vq" cuukv' kpvtguvgf " O DGulY DGu" kp" qdvckpki " dqpki . " nkgu" qh'etgf kv."  
 qt'kpuwcepg'cu'tgs vkt gf "d { 'vj g'tgekr kpgv'qt'dkl f gt0'

"

\*I +'' O cnkpi " ghqtu" vq" cuukv' kpvtguvgf " O DGulY DGu" kp" qdvckpki " pgeguuct { " gs vkr o gpv."  
 uwr r rgu." o cvgtkcu." qt'tgrv'gf "cuukucepg"qt'ugt xlegu0'

"

\*J +'' Ghgev'xgn{\ "wulpi " vj g" ugt xlegu" qh' cxckrdng" o kptkv{\ ly qo gp" eqo o wkv{\ " qti cpk cvkpu=  
 o kptkv{\ ly qo gp"eqptcevtu"i tqwr u="Hgf gten"Ucvg."cpf "nqeci'o kptkv{\ ly qo gp"dwulpguu"  
 cuukucepg"qh'klegu="cpf "qvj gt "qti cpk cvkpu"cu'cmuy gf "qp" c"ecug/d { /ecug'dcuku"vq'r tqxkf g"  
 cuukucepg"kp"vj g'tget wko gpv'cpf "r rnego gpv'qh'O DGulY DGu0"Eqpwev'y kj kp'9'f c { u'ltqo "  
 vj g" dkl " qr gplki " vj g" Dwulpguu" Qr r qtwpk{\ " cpf " Y qtni' Hqteg" F gxgnr o gpv' Wpk' cv'  
[DQYFB pef qv qx](#) "vq"i kxg"pqv'hkcvkqp"qh'v' g" dkl f gt au'kpcdkk{\ "vq"i gv'O DG"qt"Y DG"  
 s wqvgu0'

"

\*K-'' Cp { "qvj gt" gxkf gpeg" vj cv' vj g" dkl f gt" uwdok u" y j lej " ujqy u" vj cv' vj g" dkl f gt" j cu" o cf g"  
 tgcupcdng'i qqf "hckj "ghqtu"vq'o ggv'v' g'cf xgt vkugf "i qcn0'

"

K'cf f kklp." vj g'F gr ctvo gpv'o c { "cng'kpq'ceeqwpv'v' g'hqny kpi <"

"

39DR060T0: "( '39DR060T0 3"

\*3+ Y j gjv gt 'vj g'dkf f gt'uf qewo gpvcvkp'tghgewu'c'engct'cpf'tgcnkule'r ncp'hqt'cej kexkpi "  
vj g'Ego dkgf 'O DGIY DG'i qcnf'

"

\*4+" Vj g'dkf f gtu'r cuv'r gthqto cpeg'kp'o ggkpi 'vj g'eqptcev'i qcnf'

"

\*5+" Vj g'r gthqto cpeg"qh'qvj gt "dkf f gtu"kp'o ggkpi "vj g'cf xgtvkugf "i qcnf'"Hqt"gzco r rg."  
y j gp'vj g'cr r ctgpn'uweeguhwi'dkf f gt'fcknu'vq'o gg'vj g'i qcn'dw'qvj gtu'o gg'v'k'"{qw'  
o c{'tgcupcdnf'tckug'vj g's wguvkp'qh'y j gjv gt.'y kj 'cf f kqpcnt'gcuqpcdn'gthqt'v'vj g'  
cr r ctgpn'uweeguhwi'dkf f gt'eqwf "j cxg'o gv'vj g'i qcnf'"Kf'vj g'cr r ctgpn'uweeguhwi'  
dkf f gt'fcknu'vq'o gg'vj g'cf xgtvkugf "i qcn'dw'o gg'v'qt'gzeggf u'vj g'cxgtci g'O DG'cpf "  
Y DG'r ctvek'cvkqp"qdvkpgf "d{"qvj gt' dkf f gtu. "vj g'F gr ctvo gpv'o c{"xkgy "vj ku."  
kp'eqplwpevkp"y kj "qvj gt'fcevqtu."cu'gxkf gpeg"qh'vj g'cr r ctgpn'uweeguhwi'dkf f gt'  
j cxkpi "o cf g'c'i qqf'fckj 'gthqt'v'

"

Kf'vj g'F gr ctvo gpv'f qgu"pqv'cy ctf "vj g'eqptcev'vq"vj g'cr r ctgpn'ny guv'tgur qpuk'g"dkf f gt."  
vj g'F gr ctvo gpv'tgugtxgu'vj g'tk j v'vq"cy ctf "vj g'eqptcev'vq"vj g'pgzv'ny guv'tgur qpuk'g"dkf f gt'vj cv'  
ecp'ucvuh'vq'vj g'F gr ctvo gpv'vj cv'vj g'Ego dkgf 'O DGIY DG'i qcn'ecp'dg'o gv'qt'vj cv'cp'cf gs wcvg"  
i qqf'fckj 'gthqt'v'cu'dggp'o cf g'vq'o gg'vj g'cf xgtvkugf "i qcnf'

### Non-Good Faith Appeal"

"

Vj g'Gpi kpggt'y kn'pqvkh{"vj g'eqptcevqt"xgt dcm{"cpf"kp'y tkkpi "qh'pqp/i qqf'fckj 0"C"eqptcevqt"  
o c{"cr r gcn'c'f gvgto kpcvkp'qh'pqp/i qqf'fckj "o cf g'd{"vj g'I qcn'Ego r kcp'eg'Ego o kvgg0"Kf'c"  
eqptcevqt'y kj gu'vq'cr r gcn'vj g'f gvgto kpcvkp'o cf g'd{"vj g'Ego o kvgg."vj g{"uj cml'r tqxkf g'y tkvgp"  
pqv'fck'cvkqp"vq'vj g'Gpi kpggt0"Vj g'cr r gcn'uj cml'dg'o cf g'y kj kp'4"dwukpgu'f c{"u'qh'pqv'fck'cvkqp'qh'  
vj g'f gvgto kpcvkp'qh'pqp/i qqf'fckj 0"

### Counting MBE/WBE Participation Toward Meeting the Combined MBE/WBE Goal

"

\*C+" Rctvek'cvkqp"

"

Vj g'vqcn'f qmct"xcnw"qh'vj g'r ctvek'cvkqp"d{"c"eqo o kvgf "O DGIY DG'y kn'dg"eqwpgf "  
vqy ctf "vj g'eqptcev' i qcn' tgs wktgo gpv' " Vj g' vqcn' f qmct" xcnw" qh' r ctvek'cvkqp" d{"  
c"eqo o kvgf "O DGIY DG'y kn'dg"dcugf "wr qp"vj g'xcnw"qh'y qtn'cewcm'f'r gthqto gf "d{"vj g'  
O DGIY DG'cpf "vj g'cewcn'r c{"o gpv'vq'O DGIY DG'fko u'd{"vj g'Eqptcevqt0"

"

\*D+" Lqkv'Ej gemu"

"

Rtkqt" pqv'fck'cvkqp" qh' lqkv' ej gem' wug" uj cml' dg" tgs wktgf" y j gp" eqwv'kpi "  
O DGIY DG'r ctvek'cvkqp'hqt'ugt'xlegu'qt'r wtej cugu'vj cv'kpxqrgu'vj g'wug'qh'c'lqkv'ej gem'0"  
P qv'fck'cvkqp'uj cml'dg'vj tqw j "uwo kulkp'qh'Hqto "IE/3"(Joint Check Notification Form)"  
cpf "vj g'wug'qh'lqkv'ej gemu'uj cml'dg'kp'ceeqtf cpeg"y kj "vj g'F gr ctvo gpv'u'lqkv'Ej gem'  
Rtqegf wtu'

"

\*E+" Uwdeqptcew!\*P qp/Vtwemki +"

!!

C'O DGIY DG'o c{"gpvgt'lpvq'lwdeqptcew0'Y qtnlj cv'c'O DG'lwdeqptcew'q'cpqvj gt'O DG' hto "o c{"dg'eqwvvgf "qy ctf "vj g'cpvlek cvgf "O DG'r ctvlek cvkqp0"Vj g'uco g'j qrf u'htq'y qtnl' vj cv'c'Y DG'lwdeqptcew'q'cpqvj gt'Y DG'hto 0"Y qtnlj cv'c'O DGIY DG'lwdeqptcew'q'c" pqp/O DGIY DG'hto "f qgu'pqv'eqwv'qy ctf "vj g'eqptcev'i qcnl'tgs vkt go gp0""K'uj qwf "dg" pqvgf "vj cv'gxgt {"ghqt'v'uj cml'dg"o cf g'd{"O DG'cpf "Y DG'eqptcevtu'q'lwdeqptcev'q'vj g' uco g'egt vlek'vq' "kg0'O DGu'q'O DGu'cpf "Y DGu'q'Y DGu+."lp'qtf gt'q'lw'v'km'vj g'O DG' qt"Y DG'r ctvlek cvkqp'dtgcnf qy p0'Vj ku."j qy gxgt."o c{"pqv'cny c{"u'dg'r qukdrg'f wg'q'vj g' rto kcvkqp'qh'hto u'lp'vj g'ctgc0'K'ij g'O DG'qt"Y DG'hto "uj qy u'c'i qqf 'h'kj "ghqt'v' cu'dggp" o cf g'q'tgcej "qw'q'uko kctn{"egt vkgf "hto u'cpf "vj gt g'ku'pq'lpvgt'guv'qt'exckrdk{"."cpf " vj g{"ecp'i gv'cuukvcpag'htqo "qvj gt'egt vkgf "hto u."vj g"Gpi kpggt'y km'pq'v'j qrf "vj g'r tko g" tgur qpukdr'htq"o gg'v'pi "vj g'lpf k'kf wcn'O DG'qt"Y DG' dtgcnf qy p0'K'c'O DG'qt"Y DG' eqptcevt'qt'lwdeqptcevt'lwdeqptcew'c'uki pht'ecpvn{"i tgcvg't'r qt'v'kp'qh'vj g'y qtnl'qh'vj g' eqptcev'vj cp'y qwf "dg'g'zr gev'f "qp'vj g'dcuk'qh'ucpf ctf "lpf wut {"r tceveg'u."k'uj cml'dg" r tguwo gf "vj cv'vj g'O DG'qt"Y DG'ku'pqv'r gthqto kpi "c'eqo o gtekm'wug'w'lw'p'v'kp0""

!!

\*F +'' Lqkp v'Xgpwt g''

!!

Y j gp" c" O DG" qt" Y DG" r gthqto u" cu" c" r ctvlek cpv" lp" c" lqlpv" xgpwgt. " y j g" Eqpvctcevt" o c { " eqwpv" qy ctf " ku" eqpvctcevti qcnlts wktgo gpv" c" r qt vqp" qh" y j g" vqcnlxcnwg" qh" r ctvlek cvqp" y kj " y j g" O DG" qt" Y DG" lp" y j g" lqlpv" xgpwgt. " y j cv" r qt vqp" qh" y j g" vqcnl qmct " xcng" dglpi " c" f kmlpev" emctnl " f ghlpgf" r qt vqp" qh" y j qtnly cv" y j g" O DG" qt" Y DG" r gthqto u" y kj " ku" hqtegu0

!!

\*G+" Uwr r ngtu"

!!

C"eqpvtcevtq"o c{"eqwpv'qy ctf 'ku'O DG'IY DG'tgs vkt go gpv'82'r gtegpv'qh'ku'gxr gpf kwt gu' hqt"o cvgtknu'cpf "uwr r ngu'tgs vkt gf "q"eqo r rvg'vj g"eqpvtcev'cpf "qdckpgf "htqo "c'O DG"qt" Y DG" tgi wxt" f gcrgt" cpf " 322" r gtegpv' qh' uwej " gxr gpf kwt gu' htqo " c'O DG"qt"Y DG" o cpwkcwxtgt0'

“

\*H" O cpwhewtgtu"cpf "Tgi wret"F gcngtu"

!!

C"eqpvtcevt"o c{"eqwpv"qy ctf "ku'O DG"iY DG'tgs wkt go gpv'vj g"hmny kpi "gzt gpf kwt gu'vq"  
O DGIY DG"ht o u'vj cv'tg"pqv'o cpwkcwtgtu"qt'tgi wwt "f gcrtu<

!!

\*3+ Vj g'hggu"qt"eqo o kuukpu"ej cti gf "d{"c"O DGIY DG'ht o "hqt"r tqxf lpi "c"bona fide" ugtxleg."uwej "cu"r tqhguukqpcn"vgej plecn"eqpuwncpv."qt"o cpci gtken'ugt xlegu."qt"ht " r tqxf lpi " dqpfu" qt" lpuwtcpeg" ur gekhlecm{" tgs vktgf" hqt" vj g" r gthqto cpeg" qh"" c"F QV/cuukvgf"eqpvtcev."r tqxf gf "vj g'hggu"qt"eqo o kuukpu"ctg"f gvgto kpgf "vq"dg" tgcupcdig"cpf "pqv'gzeguuk'g"cu'eqo r ctgf "y kj 'hggu'cpf "eqo o kuukpu'ewuqo ctkt " cmqy gf "hqt"uko krt"ugt xleguO'

!!

\*4+ Y kj 't'gur gev'q'o c'vgt'knu'qt'uw r r'k'gu'r w'ej cu'gf 'h'qo 'c'O DGIY DG.'y j k'ej 'k'u'pgk'j gt' c'o c'pw'k'c'ewt'gt'p'qt'c't'gi w'rt'f'g'c'rgt.'e'q'wp'v'y g'g'p'w'k'g'co q'wp'v'q'h'h'ggu'qt'e'qo o k'u'k'q'pu' ej c'ti g'f 'h'qt'c'u'k'k'c'p'eg'k'o'y g'r't'q'ewt'go g'p'v'q'h'y g'o c'vgt'knu'c'p'f'uw r r'k'gu.'qt'h'ggu'qt'

39DR06T0: "( '39DR06T0 3"

xtcpur qtvcvkp"ej cti gu'hqt"vj g'f grkxgt {"qh'ho cvgtkcn"qt"uwr r rkgu'tgs wktgf "qp"clqd"ukg"  
 \*dw"pqv"vj g"equv"qh"vj g"o cvgtkcn"cpf "uwr r rkgu"vj go ugrkgu+ "r tqxkf gf "vj g"lrgu"ctg"  
 f gvgto kpgf "vq"dg'tgcuqpcdr"cpf "pqv'gzeguukxg"cu'eqo r ctgf "y kj "lrgu"ewuqo ctkn"  
 cmqy gf "hqt"uko krt'ugt xlegu0'

"

**Commercially Useful Function**

\*C+" O DGIY DG"Wkkl cvkqp"

"

Vj g'Eqptcevt'o c {"eqwpv"qy ctf "ku'eqptcev'i qcn'tgs wktgo gpv'qpn {"gzr gpf kwtgu"vq"O DGu"  
 cpf "Y DGu"vj cv'r gthqto "c"eqo o gtekcn {"wughwn'hwpevkp"kp"vj g"y qtni'qh"cl'eqptcev0"  
 C'O DGIY DG'r gthqto u"cl'eqo o gtekcn {"wughwn'hwpevkp"y j gp"kl'ku"tgur qpukdr" hqt"  
 gzgewkqp"qh"vj g"y qtni'qh"vj g'eqptcev'cpf "ku'ectt {"kpi "qw"ku"tgur qpukdrkkgu'd {"cewcm {"  
 r gthqto kpi ."o cpci kpi ."cpf "uwr gtxkukpi "vj g"y qtni'kpxqrgf 0""Vq"r gthqto "c"eqo o gtekcn {"  
 wughwn'hwpevkp."vj g"O DGIY DG"uj cni'cnq"dg"tgur qpukdr"y kj "tgur gev"vq"o cvgtkcn"cpf "  
 uwr r rkgu" wugf "qp"vj g'eqptcev."hqt"pgi qvckvpi "r tleg."f gvgto klpki "s wcrkv {"cpf "s wcpvkv {"  
 qtf gtlpi "vj g"o cvgtkcn'cpf "lpucnki "y j gtg"cr r rkecdrg+"cpf "rc {"kpi "hqt"vj g"o cvgtkcn'kugr0"  
 Vq"f gvgto kpg"y j gvj gt"cl'O DGIY DG"ku"r gthqto kpi "c"eqo o gtekcn {"wughwn'hwpevkp."vj g"  
 Fgr ctvo gpv'y kn'gxcnxcvg"vj g"co qwpv'qh'y qtni'uwdeqptcevgf ."kpf wut {"r tcevegu."y j gvj gt"  
 vj g"co qwpv'vj g"ht o "ku"vq"dg"r clf "wpgf gt"vj g'eqptcev'ku'eqo o gpwvcvg"y kj "vj g"y qtni'ku"  
 cewcm {"r gthqto kpi "cpf "vj g"O DGIY DG"etgf kl'enclo gf "hqt "ku"r gthqto cpeg"qh"vj g"y qtni"  
 cpf "cp {"qvj gt"tgrgxcpv'hcevtu0'kl'ku"vq"dg"r clf "wpgf gt"vj g'eqptcev'ku'eqo o gpwvcvg"y kj "vj g"y qtni'ku"  
 Ego o gtekcn {"Wughwn' Hwpevkp." vj g'eqptcevt" o c {"rtgugpv' gxf gpeg" vq" tgdw" vj ku"  
 rtguwo r vkqp"vq"vj g'Fgr ctvo gpv0'

"

\*D+" O DGIY DG"Wkkl cvkqp"kp"Vtwnkpi "

"

Vj g"hnqy kpi "hcevtu"y kn'dg" wugf "vq" f gvgto kpg"kl'cl'O DG"qt"Y DG"twnkpi "ht o "ku"  
 r gthqto kpi "c"eqo o gtekcn {"wughwn'hwpevkp<"

"

\*3+" Vj g"O DGIY DG"uj cni'cnq"dg"tgur qpukdr" hqt"vj g"o cpci go gpv'cpf "uwr gtxkukp"qh"vj g"  
 gpvtg"twnkpi "qr gtcvkp" hqt"y j lej "kl'ku"tgur qpukdr"qp"cl'ctkewct"eqptcev"cpf "  
 vj gtg"uj cni'pqv'dg"cl'eqptkxgf "cttcepi go gpv'hqt"vj g'r wtr qug'qh'ho ggkpi "vj g'Ego dkgf "  
 O DGIY DG'i qcn0'

"

\*4+" Vj g"O DGIY DG"uj cni'kugr"qy p"cpf "qr gtcvg"cv'rgcu'qpg'hwn {"hlegpugf ."lpwugf ."cpf "  
 qr gtcvkpcn'twni'wugf "qp"vj g'eqptcev0'

"

\*5+" Vj g"O DGIY DG"tgegkxgu"etgf kl'hqt"vj g"vqcn'xcnwg"qh"vj g'xtcpur qtvcvkp"ugt xlegu"kl"  
 r tqxkf gu"qp"vj g'eqptcev'wukpi "twni'kl'qy pu."lpwugf ."cpf "qr gtcvgu'wukpi "ftkxgtu"kl"  
 go r m {"u0'

"

\*6+" Vj g" O DG" o c {"uwdeqptcev' vj g" y qtni' vq" cpqy gt" O DG" ht o ." kpenf kpi ""  
 cp"qy pgt/qr gtcvt"y j q "ku'egt vkgf "cu"cl'O DG0""Vj g"uco g"j qrf u"tvg"vj cv"cl'Y DG"  
 o c {"uwdeqptcev'vj g"y qtni'vq"cpqy gt"Y DG"ht o ."kpenf kpi "cp"qy pgt/qr gtcvt"y j q"  
 ku'egt vkgf "cu"cl'Y DG0"Y j gp"vj ku'qeevtu."vj g"O DG"qt"Y DG"y j q"uwdeqptcev'y qtni'

39DR06T0: "( '39DR06T0 3"

tgegkxgu"etgf k'hqt"vj g"qvwn'xcnwg"qh'vj g"tcur qtvcvqp"ugt xlegu"vj g"uwdeqptcevgf " O DG"qt"Y DG'r tqxkf gu"qp"vj g"eqptcevt"K'uj qwf "dg"pqvgf "vj cv'gxtg {" ghqt v'uj cml dg'o cf g'd {" O DG'cpf "Y DG'eqptcevtu"q'uwdeqptcevt"vj g'lico g'egt v'lec vqp"K'0" O DGu" vq" O DGu" cpf " Y DGu" vq" Y DGu" " kp" qtf gt " vq" h'v'hm' vj g" r ctvlekr cvkqp" dtgcnf qy p0"Vj ku."j qy gxtg."o c {" pqv'cny c {" u'dg"r quukdg" f vq"vj g"tlo kcvkqp"qh' h'ko u'lp'vj g'ctgc0"K'ij g'O DG'qt"Y DG'h'ko "uj qy u'c'i qqf "h'ckj "ghqt v'j cu'dggp"o cf g" vq"tgcej "qww"q"uko k'ctn' "egt v'kgf "tcur qtvcvqp"ugt xleg"r tqxkf gt u'cpf "vj gt g"ku"pq" k'pvtguv"qt"cxck'cdk'v {" . "cpf "vj g {" ecp"i g'v'cuukvcpag"htqo "qvj gt"egt v'kgf "r tqxkf gt u." vj g"Gpi kpggt"y k'lpqv"j qtf "vj g'r tlo g'tgur qpukdg"ht"o ggkpi "vj g"kp'k'k' wcn'O DG" qt"Y DG'r ctvlekr cvkqp"dtgcnf qy p0"

"

\*7+" Vj g'O DGIY DG"o c {" cnuq'uwdeqptcevt"vj g'y qtn'k'c'pqp/O DGIY DG'h'ko . 'kpenf kpi " htqo "cp"qy pgt/qr gtcvqt0"Vj g"O DGIY DG"y j q"uwdeqptcevt"vj g'y qtn'k'c'pqp/ O DGIY DG" ku" gpv'kgf " vq" etgf k' hqt" vj g" qvwn' xcnw" qh' tcur qtvcvqp" ugt xlegu" r tqxkf gf " d {" vj g" pqp/O DGIY DG'uwdeqptcevt" pqv' vq" gzeeggf " vj g" xcnw" qh'tcur qtvcvqp"ugt xlegu"r tqxkf gf "d {" O DGIY DG/qy pgf "t'wem'qp"vj g"eqptcevt" Cf f k'k'p'cnr ctvlekr cvkqp"d {" pqp/O DGIY DG'uwdeqptcevtu't'gegkxgu"etgf k'qpn' hqt" vj g'hgg"qt"eqo o k'ukqp"k't'gegkxgu"cu"t'guwn'qh'vj g"uwdeqptcevt'ctt'cpi go gpv0"Vj g" xcnw"qh'ugt xlegu'r gthqto gf "wpf gt"uwdeqptcevt'ci tggo gpv'dgwy ggp"vj g'O DGIY DG" cpf "vj g'Eqptcevt"y k'lpqv'eqwpv'qy ctf u'vj g'O DGIY DG'eqptcevt'tgs v'kgf go gpv0"

"

\*8+" C"O DGIY DG"o c {" r'cug"t'wem'u"htqo "cp"guvdrkuj gf "gs v'ko gpv'r'gculpi "dwukpguu" qr gp"vq" vj g"i gpgt'cn'r wdrk'0" Vj g"r'cug" o wuv'kp'f'lecvg" vj cv' vj g"O DGIY DG"j cu" gzenwukxg'wug'qh'cpf "eqptq'n'qxtg"vj g't'wem'0"Vj ku'tgs v'kgf go gpv'f'qgu'p'qv'r'tgenf g'vj g" r'cugf "t'wem'htqo "y qtn'kpi "hqt"qvj gtu'f w'kpi "vj g'v'go "qh'vj g'r'cug"y k'j "vj g'eqpugpv" qh'vj g'O DGIY DG."uq"r'pi "cu"vj g'r'cug"i k'gu"vj g'O DGIY DG'cduq'rwg"r t'k'k' {" hqt" wug'qh'vj g'r'cugf "t'wem'0"Vj ku'v'r g'qh'g'cug"o c {" eqwpv'qy ctf "vj g'O DGIY DG'at'etgf k' cu'r'pi "cu"vj g'f'k'xgt"ku'wpf gt "vj g'O DGIY DG'at'r c {" tqn0"

"

\*9+" Uwdeqptcevgf l'g'cugf "t'wem'uj cml'f kur r {" er'gctn' "qp"vj g'f'cu'j d'qctf "vj g'pco g'qh'vj g" O DGIY DG"vj cv'vj g {" ctg'uwdeqptcevgf l'g'cugf "vq"cpf "vj gk"qy p'eqo r c {" pco g'h'k' ku'p'qv'f'gpv'kgf "qp"vj g't'wem'kug'ht0"O ci pgv'e'f'qqt'uki pu'ctg'p'qv'r gto k'wgf 0"

"

## MBE/WBE Replacement

"

Y j gp"c'Eqptcevt"j cu't'g'kgf "qp"c'eqo o ko gpv'q'c'O DG"qt"Y DG'h'ko "qt"cp"cr r tqxgf "uwdu'k'wug" O DG"qt"Y DG'h'ko "+"vq"o gg'v'cm'qt"r ctv'qh'c'eqptcevt'i qcn'tgs v'kgf go gpv."vj g"eqptcevt"uj cml'p'qv' v'go k'pcvg"vj g'O DGIY DG'hqt"eqpxgplgpeg0"Vj ku'k'penf gu."dw'ku'p'qv'iko k'gf "vq."k'p'v'c'p'gu'k'p"y j lej " vj g'Eqptcevt"uggm'vq'r gthqto "vj g'y qtn'k'ij g'v'go k'pcvgf "uwdeqptcevt"y k'j "cpqv'j gt"O DGIY DG" uwdeqptcevt."c"pqp/O DGIY DG'uwdeqptcevt."qt"y k'j "vj g'Eqptcevt'at'qy p'hqtegu'qt"vj qug'qh'cp" ch'k'k'cvg0"C"O DGIY DG"o c {" qpn' "dg"v'go k'pcvgf "ch'gt"t'gegk'k'pi "vj g"Gpi kpggt'at'y t'k'wgp"cr r tqx'cn' dcugf "w'qp"c'h'p'f'k'pi "qh'i q'qf "ecwug'hqt"vj g'r t'qr qugf "v'go k'pcv'qp0"Vj g'r t'ko g'eqptcevt"o wuv'i k'g" vj g'O DGIY DG'h'ko "7"i c {" u'vq"t'gur q'p'f "vq"vj g'r t'ko g'eqptcevt'at'p'q'v'eg"qh'k'p'v'p'v'q'v'go k'pcvg"cpf " cf x'k'ug"vj g'r t'ko g'eqptcevt"cpf "vj g'F gr ctvo gpv'qh'vj g't'gcu'pu."h'cp {" . "y j {" "vj g'h'ko "qdl'gew'vq"vj g" r t'qr qugf "v'go k'pcv'qp"qh'ku'uwdeqptcevt"cpf "y j {" "vj g'F gr ctvo gpv'uj q'w'f "p'qv'cr r tqxg"vj g'cev'k'p'0"

"



39DR060T0: "( '39DR060T0 3"

Cm'tgs wguu'hqt'tgr nrego gpv'qh'c"eqo o kwgf "O DGIY DG"ht o "uj cm'dg'uwo kwgf "v'j g"Gpi kpggt " hqt'cr r tqxcr qp'Hqto "TH/3(Replacement Request)."Kij g'Eqptcevt'hc'ku'v'q'hqny "j ku't qegf wtg." vj g'Eqptcevt'o c{"dg'f kus wcr hkgf "htqo "hwt vj gt'dkf f lpi "hqt'c'r gtlqf "qh'wr "v'8"o qpvy u0"

Vj g'Eqptcevt'uj cm'eqo r n{ "y kj "vj g'hqny lpi "hqt'tgr nrego gpv'qh'c"eqo o kwgf "O DGIY DG<"

\*C+" Rgthqto cpeg'Tgr nregf "Tgr nrego gpv"

Y j gp" c"eqo o kwgf "O DGIY DG"ku'vgt o kpcvgf "hqt'i qpf "ecwug"cu'ucvgf "cdqyg."cp"cf f kkpccn' O DGIY DG"vj cv'y cu'uwo kwgf "cv'j g'vko g'qh'dkf "o c{"dg'wugf "v'q'hwt hkm'vj g'O DGIY DG" eqo o ko gpv'v'q"o ggv'vj g'Ego dlpgf "O DGIY DG"i qcr0"C"i qpf "hckj "ghqt v'y km'qpni "dg" tgs wktgf "hqt'tgo qxlpi "c"eqo o kwgf "O DGIY DG"ht'vj gtg'y gtg'pq"cf f kkpccn'O DGulY DGu" uwo kwgf "cv'j g'vko g'qh'dkf "v'eqxgt'vj g'uco g'co qwpv'qh'y qtm'cu'vj g'O DGIY DG"vj cv'y cu' vgt o kpcvgf 0'

Kic'tgr nrego gpv'O DGIY DG'ku'p qv'hqwpf "vj cv'ecp'r gthqto "cv'gcu'vj g'uco g'co qwpv'qh'y qtm' cu'vj g'vgt o kpcvgf "O DGIY DG."vj g'Eqptcevt'uj cm'uwo k'c'i qpf "hckj "ghqt v'f qewo gpv'kpi " vj g'uvgr u'cngr 0"Uwej "f qewo gpv'kqp'uj cm'penf g."dw'pqv'dg'iko ksf "v'q."vj g'hqny lpi <"

\*3+" Eqr lgu"qh'y tkwgp"pqv'kpcv'kqp"v'q"O DGulY DGu"vj cv'vj gkt"kpvt guv'ku"uqrlksgf "kp" eqptcevt'kpi "vj g'y qtm'f gh'wngf "d{"vj g'r tgxkqu"O DGIY DG"qt"kp"uwdeqptcevt'kpi " qvj gt'kgo u'qh'y qtm'kpi "vj g'eqptcevt'0'

\*4+" Ghqtu" v'q" pgi qv'cvg" y kj " O DGulY DGu" hqt" ur gekhe" uwdkf u' kpenf lpi ." cv' c"o kpo wo <"

\*c+" Vj g'pco gu."cf f tguugu."cpf "vgr j qpg"pwo dgtu"qh'O DGulY DGu"y j q'y gtg" eqpcevgf 0'

\*d+" C"f guetkr v'kqp"qh'vj g"lphqto cv'kqp"r tqxkf gf "v'q"O DGulY DGu"tgi ctf lpi "vj g" r rpu'cpf "ur gekhecv'kpu'hqt'r qt'v'kpu'qh'vj g'y qtm'v'q"dg'r gthqto gf 0'

\*5+" C'hku'qh'tgcu'pu'y j {"O DGIY DG's wqvu'y gtg'pqv'ceegr vgf 0'

\*6+" Ghqtu'o cf g'v'cu'ku'vj g'O DGulY DGu'eqpcevgf ."h'pggf gf ."kp"qdv'kplpi "dqp f lpi " qt'kpwt cpeg'tgs wktgf "d{"vj g'Eqptcevt'0'

\*D+" F gegt v'kpcv'kqp"tgr nrego gpv"

\*3+" Y j gp" c" eqo o kwgf " O DGIY DG" ku' f gegt v'kpcv'kqp" d{" vj g" F gr ctvo gpv' chgt" vj g" UCH\*Subcontract Approval Form+ j cu' dggp" tgegkxgf "d{" vj g" F gr ctvo gpv." vj g" F gr ctvo gpv" y km' pqv" tgs wktg" vj g" Eqptcevt" v'q" uqrlk' tgr nrego gpv" O DGIY DG'r ctv'kcr v'kqp"gs wcn'v'q"vj g"tgo cl'kpi "y qtm'v'q"dg'r gthqto gf "d{" vj g" f gegt v'kpcv'kqp"ht o 0"Vj g'r ctv'kcr v'kqp"gs wcn'v'q"vj g"tgo cl'kpi "y qtm'r gthqto gf "d{" vj g" f gegt v'kpcv'kqp"ht o "y km'eqwpv'qy ctf "vj g'eqptcevt' qcn'tgs wktgo gpv0'

39DR06T0: "( '39DR06T0 3"

\*4+" Y j gp" c"eqo o kwgf "O DGIY DG"ku'f gegt wkgf "r tkqt "v"j g" F gr ctwo gpv't gegkxpi "v"j g" UCH\*Subcontract Approval Form+"hqt "v"j g" pco gf "O DGIY DG"ht o . "v"j g"Eqptcevt "uj cml' wng" cml' pgeguact { " cpf" tgcupcdrg" wgru" vq" tgr rceg" v"j g" O DGIY DG" uwdeqptcevt "y kj "cpqv gt"uko kctn { "egt wkgf "O DGIY DG"uwdeqptcevt "v"r gthqto " cv" rgcuv" v"j g" uco g" co qwpv' qh' y qtm' vq" o gg" v"j g" Ego dlpf "O DGIY DG" i qcn' tgs wkt go gpv' "Kc" "O DGIY DG"ht o "ku"pqv' hqwpf "v"q" f q" v"j g" uco g" co qwpv' qh' y qtm' c' i qqf " hckj " ghqt v' o wuv" dg" uwdo kwgf " vq" PEF QV" \*ugg" C" j gtgkp" hqt" tgs wkt gf " f qewo gpwv' qp+0'

"

## Changes in the Work

"

Y j gp" v"j g" Gpi kpggt "o cngu" ej cpi gu" v"j cv' tguwn' lp" v"j g" tgf wevqp" qt" grko lpcvqp" qh' y qtm' vq" dg" r gthqto gf "d { "c"eqo o kwgf "O DGIY DG. "v"j g"Eqptcevt "y kml'pqv' dg" tgs wkt gf "v"q" uggm' cf f kkpncr' r ctvlekr cvkqp0' "Y j gp" v"j g" Gpi kpggt "o cngu" ej cpi gu" v"j cv' tguwn' lp" cf f kkpncr' y qtm' vq" dg" r gthqto gf " d { "c" O DGIY DG" dcugf "wr qp" v"j g"Eqptcevt au" eqo o ko gpv. "v"j g" O DGIY DG" u j cml' r ctvlekr cvg" lp" cf f kkpncr' y qtm' vq" v"j g" uco g" gzwpv' cu' v"j g" O DGIY DG" r ctvlekr cvgf "lp" v"j g" qtki kpcr' eqptcevt y qtm' 0'

"

Y j gp" v"j g" Gpi kpggt "o cngu" ej cpi gu" v"j cv' tguwn' lp" gzt c' y qtm' y j lej "j cu' b qtg' v"j cp' c' b loko cnko r cev' qp" v"j g" eqptcevt co qwpv. "v"j g"Eqptcevt "uj cml' uggm' cf f kkpncr' r ctvlekr cvkqp" d { "O DGIY DG" wprguu" qvj gty kug" cr r tqxgf "d { "v"j g" Gpi kpggt 0'

"

Y j gp" v"j g" Gpi kpggt "o cngu" ej cpi gu" v"j cv' tguwn' lp" cp" cngt cvkqp" qh' r rpu' qt "f gvcku' qh' eqpwt wevqp. " cpf "c" r qt vqp" qt "cml' qh' v"j g" y qtm' j cf "dggp" gzt gev f "v"q" dg" r gthqto gf "d { "c"eqo o kwgf "O DGIY DG. " v"j g"Eqptcevt "uj cml' uggm' r ctvlekr cvkqp" d { "O DGIY DG" wprguu" qvj gty kug" cr r tqxgf "d { " v"j g" Gpi kpggt 0'

"

Y j gp" v"j g"Eqptcevt "tgs wguu" ej cpi gu" lp" v"j g" y qtm' v"j cv' tguwn' lp" v"j g" tgf wevqp" qt" grko lpcvqp" qh' y qtm' v"j cv' v"j g"Eqptcevt "eqo o kwgf "v"q" dg" r gthqto gf "d { "c" O DGIY DG. "v"j g"Eqptcevt "uj cml' uggm' cf f kkpncr' r ctvlekr cvkqp" d { "O DGIY DG" wprguu" v"j g" tgf wegf "O DGIY DG" r ctvlekr cvkqp" ecwugf "d { " v"j g" ej cpi gu' 0'

"

## Reports and Documentation

"

C"UCH\*Subcontract Approval Form+"uj cml' dg' uwdo kwgf "hqt" cml' y qtm' y j lej "ku" vq" dg" r gthqto gf "d { " c" O DGIY DG" uwdeqptcevt 0' " Vj g" F gr ctwo gpv' tguv' xgu" v"j g" tki j v' vq" tgs wkt g" eqr lgu" qh' cewcn' uwdeqptcevt' ci tggo gpw' lpxqrlpi "O DGIY DG" uwdeqptcevtu' 0'

"

Y j gp" wulpi "tcur qt vqp" ugt xlegu" vq" o gg" v"j g" eqptcevt "eqo o ko gpv. "v"j g"Eqptcevt "uj cml' uwdo k' c" r tqr qugf "v' wemlpi "r rcp" lp" cf f kkp" vq" v"j g" UCH" Vj g" r rcp" u j cml' dg' uwdo kwgf "r tkqt "v" dgi kppkpi " eqpwt wevqp" qp" v"j g" r tq lge' 0' " Vj g" r rcp" u j cml' penv' g" v"j g" pco gu' qh' cml' v' wemlpi "ht o u' r tqr qugf "hqt" wug. "v"j gk "egt wkecvqp" v { r g\* u+ "v"j g" pwo dgt "qh' v' wemlpi" qy pgf "d { "v"j g" ht o . "cu" y gm' cu' v"j g" lpf kxk' wcn' v' wemlpi gpv' wkecvqp" pwo dgtu. "cpf "v"j g" rpg" kgo \*u+ dglpi "r gthqto gf 0'

"

Y kj lp" 52" ecrgpf ct "f c { u' qh' gpv' tlpki "lpv" cp" ci tggo gpv' y kj "c" O DGIY DG" hqt "o cvgt kcu. "uwr r rlg u" qt "ugt xlegu. "pqv' v"j gty kug" f qewo gpv' gf "d { "v"j g" UCH" cu' ur gekk' gf "cdq xg. "v"j g"Eqptcevt "uj cml' htpkuj "

39DR06T0: "( '39DR06T0 3"

vj g"Gpi kpggt" c"eqr { "qh'vj g'ci tggg gpw"Vj g'f qewo gpvcvkp"uj cml'cuq"lpf lecvg"vj g'r gtegpvc i g"\*82' " qt"322' +qh'gZR gpf kwtgu'enko gf "hqt"O DGIY DG"et gf k0' "

## Reporting Minority and Women Business Enterprise Participation

Vj g"Eqpvtcevt"uj cml'r tqxkf g"vj g"Gpi kpggt"y kj "cp"ceeqwvpi "qh'r c { o gpw'o cf g"vq"cm'O DG"cpf " Y DG"ht o u." kpenf kpi " o cvgt kcn' uwr r rktu" cpf " eqpvtcevtu" cv' cm' rxxgm" \*r tlo g." uweqpvtcevt." qt"ugeqpf "vgt"uweqpvtcevt+0"Vj ku'ceeqwvpi "uj cml'dg"ht pluj gf "vq"vj g"Gpi kpggt"ht"cp { "i kxgp" o qpj "d { "vj g"gpf "qh'vj g"hmjy kpi "o qpj 0" Hkwtg"vq"uwo k'vj ku'lphto cvkp"ceeqtf kpi n { "o c { " tguwn'lp"vj g"hmjy kpi "cevkp<"

\*C+" Y kj j qrf kpi "qh'o qpg { "f wg"lp"vj g"pgzv'r ctvknr c { "guvko cvg="qt" "

\*D+" Tgo qxcn'qh'cp"cr r tqxgf "eqpvtcevt"ht qo "vj g'r tgs wcnk hgf "dkf fgtu0'kuv"qt"vj g'tgo qxcn'qh' qvj gt"gpvkgu"ht qo "vj g'cr r tqxgf "uweqpvtcevtu'kuv' "

Y j krg" gcej "eqpvtcevt"\*r tlo g." uweqpvtcevt." 4pf "vgt"uweqpvtcevt+"ku'tgur qpukdr"ht"ceewtcvg" ceeqwpvpi "qh'r c { o gpw'vq"O DGuFY DGu. 'k'uj cml'dg"vj g'r tlo g"eqpvtcevtu'ht gur qpukdrkx { "vq'tgr qtv' cml'o qpj n { "cpf "hpcnr c { o gpv'lphto cvkp"lp"vj g'eqttevtgr qtvpi "o cppgt0 "

Hkwtg"qp"vj g'r ctv'qh'vj g"Eqpvtcevt"vq"uwo k'vj g'tgs wktgf "lphto cvkp"lp"vj g'vko g'htco g'ur gekhgf " o c { "tguwn'lp"vj g'f kus wcnk hcvkp"qh'vj cv'eqpvtcevt"cpf "cp { "chhkcvg"eqo r cplgu"ht qo "htvj gt" dkf f kpi "wpvkn'vj g'tgs wktgf "lphto cvkp"ku'uwo kwgf 0' "

Hkwtg"qp"vj g'r ctv'qh'cp { "uweqpvtcevt"vq"uwo k'vj g'tgs wktgf "lphto cvkp"lp"vj g'vko g'htco g' ur gekhgf "o c { "tguwn'lp"vj g'f kus wcnk hcvkp"qh'vj cv'eqpvtcevt"cpf "cp { "chhkcvg"eqo r cplgu"ht qo " dgkpi "cr r tqxgf "ht"htvj gt"y qtn'qp"hwatg'r tqlgeu'wpvkn'vj g'tgs wktgf "lphto cvkp"ku'uwo kwgf 0' "

Eqpvtcevtu'tgr qtvpi "tcur qtvkp"ugt xlegu'r tqxkf gf "d { "pqp/O DGIY DG"nguugu"uj cml'gxcnvcvg" vj g'xcnvg"qh'ugt xlegu'r tqxkf gf "f vtpi "vj g'o qpj "qh'vj g'tgr qtvpi "r gtlkf "qpn { 0' "

Cv'cp { "vko g."vj g"Gpi kpggt"ecp'tgs wguv'y tkwgp"xgt hcvkp"qh'uweqpvtcevt"r c { o gpw'0' Vj g"Eqpvtcevt"uj cml'tgr qtv'vj g"ceeqwvpi "qh'r c { o gpw'vj tqwi j "vj g'F gr ctvo gpw'F DG'Rc { o gpv' Vtcentkpi "U { ugo 0' "

## Failure to Meet Contract Requirements

Hkwtg" vq" o gg'v' eqpvtcev' tgs wktgo gpw' lp" ceeqtf cpeg" y kj " Uwdetveng" 324/37\*L+ qh' vj g" 2018"Standard"Specifications"o c { "dg"ecwug"vq" f kus wcnk h { "vj g"Eqpvtcevt0' "

## SUBSURFACE INFORMATION:

\*9/3/; 7+

672"

UR3T 334"C"

Vj gtg"ku'no"uwdwthreg"lphto cvkp"cxckndrg"qp"vj ku'r tqlgev0"Vj g"Eqpvtcevt"uj cml'o cng"j ku'qy p" kpxguvki cvkp"qh'uwdwthreg"eqpf kkpau0' "

**TWELVE MONTH GUARANTEE:**

\*9/37/25+ "

32: "

UR3'I 367"

" \*C+ " Vj g'Eapvtcevt'uj cml wctcpvgg'o cvgtknu'cpf 'y qtno cpuj kr 'ci ckpuv'wvcpv'cpf 'r cvgpv'f ghgevu' ctklpi 'htqo 'lcwn' 'o cvgtknu.'lcwn' 'y qtno cpuj kr "qt"pgi rki gpeg"htq" c"r gtlkf "qh"vy grkg" o qpvy u'hqny lpi 'vj g'f cvg'qhlhpcnceegr vpeg'qh'v g'y qtnlht'o clpvgpcpeg'cpf 'uj cmlgr meg" uwej 'f ghgevkxg'o cvgtknu'cpf 'y qtno cpuj kr 'y kj qw'equv'v'v' g'F gr ctwo gpv'Vj g'Eapvtcevt' y kni'pqv'dg" tgr qpukdg" htq" f co ci g" f wg" vq" lcwn' " f guki p." pqto cni' y gct" cpf " vgt." htq" pgi rki gpeg"qp'vj g'r ctv'qh'v g'F gr ctwo gpv.'cpf lqt'htq" wug'lp"gzeguu'qh'v g'f guki p0 "

" \*D+ " Y j gtg"lgo u'qh'gs wkr o gpv'qt"o cvgtknelectt { "c"o cpwlcwewtgtai' wctcpvgg"htq" cp { "r gtlkf "lp" gzeguu'qh'vy grkg"o qpvy u.'vj gp'vj g'o cpwlcwewtgtai' wctcpvgg"uj cml'cr r n' "htq"vj cv'r ctvlewct " r lgeg"qh'gs wkr o gpv'qt" o cvgtknu' Vj g" F gr ctwo gpv'u'htuv" tgo gf { "uj cml'dg" vj tqwi j " vj g" o cpwlcwewtgt'cnj qwi j 'vj g'Eapvtcevt'ku'tgr qpukdg"htq" lpxqnlpi 'vj g'y ctcpvgf 'tgr ck'y qtnl' y kj 'vj g'o cpwlcwewtgt0"Vj g'Eapvtcevtai'tgr qpukdgk' "uj cml'dg"rko kgf "vq"vj g'vgt'o "qh'v g" o cpwlcwewtgtai' wctcpvgg'P EF QV"y qwf "dg"chqtf gf "vj g'uco g'y ctcpv'cu'r tqxkf gf "d { " vj g'O cpwlcwewtgt0 "

" Vj ku'i wctcpvgg"r tqxkukp"uj cml'dg"lpxqngf "qpn' "htq"o clqt"eqo r qpgpw"qh'y qtnl'lp"y j kej "vj g" Eapvtcevt"y qwf "dg"y j qm' "tgr qpukdg"htq" wpf gt"vj g'vgt'o u'qh'v g'eqvtcevt0"Gzco r ngu'y qwf " lpenf g'r cxgo gpv'utwewtgu."dtkf i g'eqo r qpgpw."cpf "uki p"utwewtgu0"Vj ku'r tqxkukp"y kni'pqv'dg" wugf "cu" c"o gej cpluo "vq"hteg"vj g'Eapvtcevt"vq"tgwtp"vq"vj g'r tqlgev'vq"o cng'tgr ctu'qt"r gthqto " cf f klqpcn'y qtnl'v cv'vj g'F gr ctwo gpv'y qwf "pqto cml'eqo r gpucv'vj g'Eapvtcevt"htq0"lp"cf f klqp." tqwlp'g'o clpvgpcpeg'cevkxkgu"kg0o qy lpi 'i tcuu."f gdtku'tgo qxcn'twu'lp" gctvj "uj qwf gtu.+ctg"pqv' r ctu'qh'v ku'i wctcpvgg0 "

" Cr r tqr tlcw'r tqxkukpu"qh'v g'r c { o gpv'cpf lqt"r gthqto cpeg"dqpf u'uj cml'eqxgt"vj ku'i wctcpvgg"htq" vj g'r tqlgev0 "

" Vq"gpwtg"wpkhqto "cr r nlcwkp"ucvgy kf g'vj g'F kxkukp"Gpi lpggt'y kni'hty ctf "f gvcku'tgi ctf lpi "vj g" ekewo ucpegu"utwtqwpf lpi "cp { "r tqr qugf "i wctcpvgg"tgr ctu'vq"vj g'Ej lgh'Gpi lpggt'htq"tgxky "cpf " cr r tqxcnr tlqt"vq"vj g'y qtnldgkpi "r gthqto gf 0 "

**OUTSOURCING OUTSIDE THE USA:**

\*; /43/26+\*Tgx07/38/28+ "

"

UR3'I 372"

" Cml'y qtnl'qp'eqpuwncpv'eqvtcevu.'ugt xlegu'eqvtcevu'cpf 'eqputwvklp'eqvtcevu'uj cml'dg'r gthqto gf " lp"vj g"Wpkgf "Ucvgu"qh'Co gtlec0"P q"y qtnl'uj cml'dg"qwuqwtg"qwu'f g"qh'v g"Wpkgf "Ucvgu"qh' Co gtlec0 "

" Outsourcing"htq"vj g'r wtr qug"qh'v ku'r tqxkukp"ku'f ghlp'gf "cu"vj g'r tcewleg"qh'uwd eqvtcevlpi "ndqt." y qtm'ugt xlegu.'uwlh'pi ."qt"r gtuppgn'vq"gpvklgu'qecv'f "qwu'f g"qh'v g"Wpkgf "Ucvgu0 "

" Vj g"P qtvj "Ectqnlpc"Ugetgvt { "qh"Vtcur qtewklp"uj cml'cr r tqxg"gzegr vqpu"vq"vj ku'r tqxkukp"lp" y tklpi 0 "

**EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:**

\*3/38/29+\*Tgx'33/44/38+ "

327/38.'447/4.'38"

UR3'I 3: 2"

**General**

"

Uej gf wrg"cpf "eqpf wev'eqputwevkqp"cevkxkkgu"lp"o cpggt"vj cv'y km'o loko k g"uqk'gtqulqp"cpf "vj g" tguwnkpi "ugf ko gpvcvkqp"cpf "wtdkf kv{ "qh'uwt hceg"y cvgtu0"Ego r n{ "y kj "vj g"tgs wkt go gpvu"j gtgkp" tgi ctf rguu"qh'y j gyj gt"qt"pqv'c"P cvkqpcn'Rqmwkqp"f kuej cti g"Grko lpcvkqp"U{ uvgo "P RF GU+r gt o kv" hqt"vj g'y qtnlku'tgs wkt gf 0'

"

Guxcdrukj "c"ej clp"qh'tgur qpukdkv{ "hqt"qr gtcvkqpu"cpf "uwdeqptcevtu0"qr gtcvkqpu"vq"gpwt g"vj cv'y g *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* "ku" ko r ngo gpvgf "cpf " o clpvclpgf "qxtg"vj g"rhg"qh'y g"eqptcevtu0

"

\*C+ " *Certified Supervisor*"/"Rtqxf g"o c"egt vkhgf "Gtqulqp"cpf "Ugf ko gpv' EqptqnlUqto y cvgt" Uwr gt xluqt "vq"o cpci g"vj g'Eqptcevtu"cpf "uwdeqptcevtu"qr gtcvkqpu. "lpwt g"eqo r rcepg'y kj " Hgf gtcn"Ucvg"cpf "Nqecn'qtf lpcpegu"cpf "tgi wrcvkqpu."cpf "o cpci g"vj g"S wcrkv{ "Eqptqnl' Rtqi tco 0'

"

\*D+ " *Certified Foreman*"/"Rtqxf g"o c"egt vkhgf . "vclpgf "hqt go cp"hqt "gcej "eqputwevkqp"qr gtcvkqp" vj cv'lpetgcugu"vj g'r qvgpvkcn'hqt "uqk'gtqulqp"qt "vj g'r quukdr"ugf ko gpvcvkqp"cpf "wtdkf kv{ "qh" uwt hceg"y cvgtu0

"

\*E+ " *Certified Installer*"/"Rtqxf g"o c"egt vkhgf "lpucmgt"vq"lpucm'qt"fk gev"vj g"lpucm'vkqp"hqt" gtqulqp"qt"ugf ko gpvlvqto y cvgt"eqptqnlr tcevegu0

"

\*F+ " *Certified Designer*"/"Rtqxf g"o c"egt vkhgf "f guli pgt"hqt "vj g'f guli p"qh'y g'gtqulqp"cpf "ugf ko gpv' eqptqnlvqto y cvgt"eqo r qpvgv'qh'tgemo cvkqp'r rcpu"cpf . 'h'cr r necdr. "hqt"vj g'f guli p"qh'y g" r tqlgev"gtqulqp"cpf "ugf ko gpv'eqptqnlvqto y cvgt"r rcp0'

"

**Roles and Responsibilities**

"

\*C+ " *Certified Erosion and Sediment Control/Stormwater Supervisor*"/"Vj g'Egt vkhgf "Uwr gt xluqt" uj cmldg'NgxgnlKkcpf "tgur qpukdr"hqt "gpwt lpi "vj g'gtqulqp"cpf "ugf ko gpv'eqptqnlvqto y cvgt" r rcp"ku"cf gs wcvgn{ "ko r ngo gpvgf "cpf "o clpvclpgf "qp"vj g"r tqlgev"cpf "hqt"eqpf wevkpi "vj g" s wcrkv{ "eqptqnlr tqi tco 0"Vj g'Egt vkhgf "Uwr gt xluqt"uj cmldg"qp"vj g'r tqlgev'y kj lp'46"j qwtu" pqvleg"htqo "lpk'cn' gZR quwtg"qh'cp" gtqf kdr" uwt hceg"vq"vj g"r tqlgev'u" hpcn' ceegr wpeg0" Rgthqto "vj g'hqmqy lpi "f wkgu<

"

\*3+ " O cpci g"Qr gtcvkqpu"/"Eqqt f lpcvg"cpf "uej gf wrg"vj g'y qtnl'qh'uwt hceg"vq"vj g'gtqulqp"cpf "ugf ko gpv'eqptqnlvqto y cvgt"o gcuwt gu"ct g"hwk{ "gzgewgf "hqt" gcej " qr gtcvkqp"cpf "lp"o c"vko gn{ "o cpggt"qxtg"vj g'f wrcvkqp"qh'y g"eqptcevtu0

"

\*c+ " Qxgtugg" vj g" y qtnl' qh' uwdeqptcevtu" uq" vj cv' cr r tqr tlcvg" gtqulqp" cpf " ugf ko gpv'eqptqnlvqto y cvgt"r tgxgpvkg"o gcuwt gu"ct g"eqphqto gf "vq"cv'gcej " uuci g"qh'y g'y qtn0'

39DR060T0: '( '39DR060T0 3''

- \*d+" Rtgr ctg" yj g" tgs wktgf "P cvlqpcn' Rqmwcpv" F kfej cti g" Gko kpcvqp" U{ uvg " \*P RF GU+ 'Kpur gevqp" Tgeqtf "cpf "uwo k'v' yj g' Gpi kpggt0'
- \*e+" Cwgpf "cmly ggm{ "qt" o qpj n{ "eqputwekqp" o ggkpi u'v' f' kuewu' yj g' hpf kpi u' qh' yj g' P RF GU' kpur gevqp" cpf "qj gt' tgrvgtf "kuwgu0'
- \*f+" Ko r ngo gpv' yj g' gtqulqp" cpf " ugf ko gpv' eqptqnluxto y cvgt " uksg" r rpu' tgs wguvgt 0'
- \*g+" Rtqxkf g" cp{ "pggf gf "gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "r tceveg" hqt" yj g' Eqptcevtat' vgo r qtct { "y qtnlpqv' uq y p" qp' yj g' r rpu' uvej "cu" dw' pqv' rko kgtf "v" y qtn' r rvtqto u. "vgo r qtct { "eqputwekqp. "r wo r kpi "qr gtcvqp. " r rpv' cpf "uqtci g" { ctf u. "cpf "eqhgtf co u0'
- \*h+" Ces wktg' cr r rcdrg' r gto ku' cpf "eqo r n{ "y kj "tgs wktgo gpw' hqt" dattqy "r ku. " fgy cvgtkpi. " cpf " cp{ " vgo r qtct { "y qtn' eqpf wvgtf " d{ " yj g' Eqptcevtat' k' lwtkf levkqpcn' ctgcu0'
- \*i+" Eqpf wev' cm' gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "y qtnlp' c" vko gn{ "cpf " y qtno cprkng" o cpggt0'
- \*j+" Hwm{ "r gthqto " cpf " kpuwcm' gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "y qtn' r tkqt "v" cp{ "uwur gpulqp" qh' yj g' y qtn0'
- \*k+" Eqqtf kpcvg' y kj "F gr ctwo gpv' Hgf gtcn "Ucvg" cpf "NqecnTgi wvvt { "ci gpekgu" qp' tguqnwkp" qh' gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "kuwgu' f wv' v' yj g' Eqptcevtat' qr gtcvqp u0'
- \*l+" Gpwtg' yj cv' r tqr gt "ergcpw' "qeewtu' hqo "xgj keng' tcentpi "qp' r cxgf "uwt hregu" qt' cp{ "nqecvqp" yj gtg' ugf ko gpv' rxcxgu' yj g' Tkj v' qh' Y c{ 0'
- \*m+" J cxg' cxckcdrg' c" ugv' qh' gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "r rpu' yj cv' ctg' kpkckrgf "cpf " kpenf g' yj g' kpuwcm' vqp' f cvg' qh' Dgu' O cpci go gpv' Rtceveg u0' Vj gug' r tceveg u' yj cm' kpenf g' vgo r qtct { "cpf "r gto cpgpv' tqwpf eqxgt' cpf "dg" r tqr gtn{ "w' f cvgtf "v" tghgev' pgeguet { "r rcp" cpf "hgrf "ej cpi gu' hqt" wug" cpf " tgxkgy "d{ "F gr ctwo gpv' r gtu ppgn' cu' y gni' cu' tgi wvvt { "ci gpekgu0'

"

- \*4+" Tgs wktgo gpw' ugv' hqt yj " wpf gt" yj g' P RF GU' Rgto k' / " Vj g' F gr ctwo gpv' u' P RF GU' Uqto y cvgt " r gto k' \*P EU22472+ " qwkpku' egtvlp" qdlgevkgu" cpf " o cpci go gpv' o gcuwgu' r gtcvlpki "v' eqputwekqp" cevkkkgu0' Vj g' r gto k' tghgtgpegu' NCG010000, General Permit to Discharge Stormwater" wpf gt" yj g' P RF GU. "cpf " ucvgu' yj cv' yj g' F gr ctwo gpv' yj cm' kpeqr qtcvg' yj g' cr r rcdrg' tgs wktgo gpw' kpv' ku' f ggi cvgt "Gtqulqp" cpf "Ugf ko gpv' Eqptqnl' Rtqi tco "hqt" eqputwekqp" cevkkkgu' f kuwtdkpi "qpg" qt" o qtg" cetgu' qh' rcpf 0' " Vj g' F gr ctwo gpv' hwt yj gt " kpeqr qtcvgu' yj gug' tgs wktgo gpw' qp' cm' eqptcevgf " dtkf i g" cpf " ewxgt v' y qtn' cv' lwtkf levkqpcn' y cvgtu. " tgi ctf rguu' qh' uk' g0' Uqo g' qh' yj g' tgs wktgo gpw' ctg. "dw' ctg' pqv' rko kgtf "vq<

"

- \*c+" Eqptqnl' r tqlgv' uksg" y cvgt "v" r tngxgpv' eqpvco kpcvqp" qh' uwt hreg" qt" i tqwpf " y cvgtu' qh' yj g' ucvgt. " kq0 hqo "gs wkr o gpv' qr gtcvqp lo clpvgtcpeg. "eqputwekqp" o cvgtkcu. "eqpetgv" y cuj qw. "ej go kcu. "rkvgt. "hwgu. "nwt kcpw. "eqqrpw. " j { f tcvke "hwxk u. "cp{ "qj gt' r gtuqrgwo "r tqf wvu. "cpf "ucpkct { "y cvgt0'
- \*d+" Kpur gev' gtqulqp" cpf "ugf ko gpv' eqptqnluxto y cvgt "f gxlegu" cpf "uqto y cvgt " f kfej cti g' qwhcm' cv' rguv' qpeg' gxgt { "9" ecrgpf ct "f c{ u' cpf "y kj kp' 46" j qwtu' chgt "c" tclphcm' gxgpv' qh' 207" kpej " yj cv' qeewtu' y kj kp' c" 46" j qwtu' r gtkqf 0' Cff kqpcn' o qpkqt kpi " o c{ " dg" tgs wktgf " cv' yj g' f kuetgvqp" qh' F kxkulp" qh'

39DR060T0: "( '39DR060T0 3"

Y cvgt "Tguqwtegu" r gtuqppgn' kh' yj g" tgegkxkpi "utgco "ku" 525\*f + "rkugf "hqt" wtdkf kx{ "cpf "yj g'r tqlgv'j cu'j cf "f qewo gpvgf "r tqdrgo u'o cpci kpi "wtdkf kx{ 0' \*e+ " O clpvcxp" cp" qpukg" tclp" i cwi g" qt" wug" yj g" F gr ctwo gpvau" O wnk Ugpuqt" Rtgekr kcvkp' Guvko cvg'y gdukg'vq' o clpvcxp' c' f ckn' 'tgeqtf "qhtclphcmico qwpvu" cpf "f cvgu0'

\*f+ " O clpvcxp" gtqulqp" cpf "ugf ko gpv' eqpvtqnluxqto y cvgt "kpur gevkp" tgeqtf u" hqt" tgxkgy "d{ "F gr ctwo gpv' cpf "Tgi wrcvt { "r gtuqppgn' wr qp" tgs wgu0'

\*g+ " Ko r ngo gpv' cr r tqxgf "tgeno cvkp" r rpu" qp" cm'dqttqy "r ku. "y cug' ukgu" cpf " uci kpi "ctgcu0'

\*h+ " O clpvcxp" c" nji "qh' wtdkf kx{ "vgu" tguwu" cu" qwukpgf "kp" yj g" F gr ctwo gpvau" Rtqegf wtg' hqt "O qpukqt kpi "Dqttqy "Rk' F kxj cti g0'

\*i+ " Rtqxf g' ugeqpf ct { "eqpvcxp" gpv' hqt "dwm' luvqtc i g' qh' kx wkf "o cvgt kcu0'

\*j+ " Rtqxf g' "tclp kpi "hqt" go r nji { ggu" eqpegt pki "i gpgt cr' gtqulqp" cpf "ugf ko gpv' eqpvtqnluxqto y cvgt" cy ctgpguu. " yj g" F gr ctwo gpvau" P RF GU" Uqto y cvgt" Rgto k' P EU22472 "tgs wkt go gpvu. " cpf "yj g" cr r rlecdrng" tgs wkt go gpvu" qh' yj g" General Permit, NCG0100000'

\*k+ " Tgr qtv' xkrcvkvpu" qh' yj g" P RF GU" r gto k' vq' yj g" Gpi kpggt "ko o gf kcvgn' "y j q" y km' pqvkh' "yj g" F kxkukp" qh' Y cvgt "S wcrkx{ "Tgi kpcn' Qhleg' y kj kp "46" j qwtu" qh' dgeqo kpi "cy ctg" qh' yj g' xkrcvkvpu0'

"

\*5+ " S wcrkx{ "Eqpvtqnl' Rtqi tco " / " O clpvcxp" c" s wcrkx{ "eqpvtqnl' r tqi tco "vq" eqpvtqnl' gtqulqp. " r tgxgpv' ugf ko gpvcxp" cpf "hqnuy "r tqxkukpuleqpf kxkpu" qh' r gto ku0' "Vj g" s wcrkx{ " eqpvtqnl' r tqi tco "uj cmk"

"

\*c+ " Hqnuy "r gto k' tgs wkt go gpvu" tgrcvf "vq" yj g" Eqpvtcevqt" cpf "uweqpvtcevqtu0' eqpvtwvkv" cevxxkxgu0'

\*d+ " Gpuwtg' yj cv' cm' qr gtcvtu" cpf "uweqpvtcevqtu" qp' uksg' j cxg' yj g' r tqr gt "gtqulqp" cpf "ugf ko gpv' eqpvtqnluxqto y cvgt "egt vkhcvkp0'

\*e+ " P qvkh' " yj g" Gpi kpggt " y j gp" yj g" tgs wkt gf " egt vkhgf " gtqulqp" cpf "ugf ko gpv' eqpvtqnluxqto y cvgt" r gtuqppgn' ctg' pqv' cxckrcdrng' qp' yj g' lqd' uksg' y j gp' pggf gf 0'

\*f+ " Eqpf wv' yj g' kpur gevkvpu' tgs wkt gf "d{ " yj g" P RF GU" r gto k0'

\*g+ " Vcng' eqtt gevkg' cevkvpu' kp' yj g' r tqr gt "vko ghtco g' cu' tgs wkt gf "d{ " yj g" P RF GU" r gto k' hqt' r tqdrgo "ctgcu' kf gpvkhgf "f wt kpi " yj g" P RF GU" kpur gevkvpu0'

\*h+ " Kpeqr qtcvg' gtqulqp" eqpvtqnl' kvq' yj g' y qtni' kp' c' vko gn' "o cpggt" cpf "ucdkk' g" f kwt dgf "ctgcu' y kj "o wrcj luggf "qt' xgi gvcvkg' eqxgt "qp" c' ugevkv/ d { / ugevkv" dcuku0'

\*i+ " Wug' hqeewrcpu" cr r tqxgf "d{ "ucvg' tgi wrcvt { "cwj qtkkgu" y j gtg' cr r tqr tkvg" cpf "y j gtg' tgs wkt gf "hqt" wtdkf kx{ "cpf "ugf ko gpvcxp" tgf wvkvpu0'

\*j+ " Gpuwtg' r tqr gt " kpuwrcvkv" cpf " o clpvgpcpeg" qh' vgo r qtct { " gtqulqp" cpf " ugf ko gpv' eqpvtqnl' f gxlegu0'

\*k+ " Tgo qxg' vgo r qtct { "gtqulqp" qt "ugf ko gpv' eqpvtqnl' f gxlegu" y j gp' yj g{ "ctg" pq" nipi gt "pgeguuct { "cu' ci tggf "wr qp" d{ " yj g' Gpi kpggt0'

\*l+ " Vj g' Eqpvtcevqtu' s wcrkx{ "eqpvtqnl' cpf "kpur gevkv" r tqegf wtgu' uj cm' dg' uwdlgev' vq' tgxkgy "d{ " yj g' Gpi kpggt0' " O clpvcxp" P RF GU" kpur gevkv" tgeqtf u' cpf "o cng" tgeqtf u' cxckrcdrng' cv' cm' vko gu' hqt "xgt khcvkv" d{ " yj g' Gpi kpggt0'

"

39DR060T0: "( '39DR060T0 3"

\*D+ Certified Foreman /"Cv'rgcu'qpg"Egtvhlgf "Hqtgo cp"uj cm'dg"qpukg"lqt "gcej "v\ r g'qh'y qtm' rlvuf "j gt glp" f wt lpi " vj g" t gur ge vkg" eqput wevkp" cevxxklgu" vq" eqpvtqn' gtqulqp." r t g x g p v" ugf ko gpvcvkp"cpf "lqmqy "r gt o k'r tqxkukpu<"

\*3+ Hqtgo cp"lp"ej cti g'qh'i tcf lpi "cevxxklgu"

\*4+ Hqtgo cp"lp"ej cti g'qh'dt lfi g"qt "ewxgt v'eqput wevkp"qxgt "lwt kuf levkqpcn'ct gcu"

\*5+ Hqtgo cp"lp"ej cti g'qh'wklv\ "cevxxklgu"

"

Vj g'Eqptcevt"o c{"tgs wguv"vq"wg"vj g"uco g'r gt uqp"cu'vj g'Ngxgn'KKUwr gtxkqt"cpf "Ngxgn'KK' Hqtgo cp0"Vj ku'r gt uqp"uj cm'dg"qpukg"y j gpgxgt"eqput wevkp"cevxxklgu"cu'f guetldgf "cdq xg" ctg\cnlpi "r nceg0"Vj ku'tgs wguv'uj cm'dg"cr r tqxgf "d{"vj g'Gpi kpggt"r tlqt"vq"y qtm'dgi kplkpi 0"

"

Vj g'Eqptcevt"o c{"tgs wguv"vq"pco g" c"ulpi ng" Ngxgn' KK' Hqtgo cp" vq"qxgtugg"o wklv ng" eqput wevkp"cevxxklgu"qp"uo cm'dt lfi g"qt "ewxgt v'tgr nceg0 gpv'r tqlgeu0"Vj ku'tgs wguv'uj cm' dg"cr r tqxgf "d{"vj g'Gpi kpggt"r tlqt"vq"y qtm'dgi kplkpi 0"

"

\*E+ Certified Installers"/"Rtqxlf g"cv'rgcu'qpg"qpukg."Ngxgn'KEgtvhlgf "lpucmgt"lqt "gcej "qh'vj g" lqmqy lpi "gtqulqp"cpf "ugf ko gpv'eqpvtqnluqto y cvgt "etgy <"

"

\*3+ Uggf lpi "cpf "O wrej lpi "

\*4+ Vgo r qtct {"Uggf lpi "

\*5+ Vgo r qtct {"O wrej lpi "

\*6+ Uqf f lpi "

\*7+ Ukn'lgpeg"qt"qvj gt"r gtlo gvg"gtqulqp luf ko gpv'eqpvtqn'f gxleg"lpucm'vqpu"

\*8+ Gtqulqp"eqpvtqn'dn'pngv'lpucm'vqpu"

\*9+ J {f tcwle"vcnklgt"lpucm'vqpu"

\*: + Vwtdlf kl "ewt vlp"lpucm'vqpu"

\*; + Tqenlf kej "ej gemluf ko gpv'f co "lpucm'vqpu"

\*32+ F kej "lpgt lo cwlpi "lpucm'vqpu"

\*33+ Krgv'r tqvgevkp"

\*34+ Tkr tcr "r nceg0 gpv"

\*35+ Uqto y cvgt "DO R"lpucm'vqpu"uwej "cu'dw'pqv'iko kgf "vq"lgxgn'ur tgc f gtu" tgvgpvkp lf gvgpvkp" f gxlegu"

\*36+ Rkr g"lpucm'vqpu'y kj lp "lwt kuf levkqpcn'ct gcu"

"

KK' c" Ngxgn' K' Certified Installer" ku" pqv' qpukg." vj g' Eqptcevt" o c{" uwdvkwg" c"Ngxgn'KKHqtgo cp"lqt" c"Ngxgn'K'lpucmgt."r tqxlf gf "vj g'Ngxgn'KKHqtgo cp"ku"pqv'vcungf "vq" cpqvj gt "etgy "tgs wklpi "Ngxgn'KKHqtgo cp"qxgtuli j 0"

"

\*F+ Certified Designer"/"Kpenf g"vj g'egt vhlcvkp"pwo dgt "qh'vj g'Ngxgn'KKD'Egtvhlgf "F guki pgt" qp"vj g'gtqulqp"cpf "ugf ko gpv'eqpvtqnluqto y cvgt "eqo r qpgpv'qh'cm'tgenco cvkp"r ncpu"cpf "lh" cr r ncedng."vj g'egt vhlcvkp"pwo dgt "qh'vj g'Ngxgn'KKK'C'Egtvhlgf "F guki pgt"qp"vj g'f guki p"qh" vj g'r tqlgev'gtqulqp"cpf "ugf ko gpv'eqpvtqnluqto y cvgt "r ncp0"

"



## Preconstruction Meeting

"

Hwtpkuj " vj g" pco gu" qh' vj g *Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers* cpf *Certified Designer* cpf pqvhl "vj g" Gpi kpggt "qh'ej cpi gu" kp"egt vhlgf "r gtupppgn'qxgt "vj g" hlg"qh'vj g"eqpvtcev'y kj kp"4"f c {u"qh'ej cpi g0'

"

## Ethical Responsibility

"

Cp { "eqo r cp { "r gthqto kpi "y qtm'hqt "vj g" P qtvj "Ectqikpc" F gr ctvo gpv' qh' Vtcur qtvclqp" j cu" vj g" gjv lecn't gur qpukdkv { "vq" hwm { "f kuwug" cp { "tgr tko cpf "qt "f kuo kuon'qh'cp" go r m { gg"tguwnkpi "ltqo " ko r tqr gt "vgu kpi "qt "hcnuklec vqp" qh'tgeqtf u0'

## Revocation or Suspension of Certification

"

Wt qp" tgeqo o gpfcvqp" qh' vj g" Ej lgh" Gpi kpggt " vq" vj g" egt vhllec vqp" gpvhl { " egt vhllec vqp" hqt " *Supervisor. "Certified Foremen. "Certified Installers*" cpf " *Certified Designer*" o c { "dg"tgxqngf "qt" uwur gpfgf "y kj "vj g" kuwpeg"qh'cp" *Immediate Corrective Action (ICA), "Notice of Violation (NOV),* qt " *Ease and Desist Order*" hqt "gtquqp" cpf "ugf ko gpv'eqpvtqnuxqto y cvgt "tgrcvgf "kuwgu0'

"

Vj g" Ej lgh" Gpi kpggt "o c { "tgeqo o gpfcvqp" qt "r gto cpgpv'tgxqecvqp" qh'egt vhllec vqp" f wg" vq" vj g" hqnqy kpi <'

"

- \*C+ " Hckwtg" vq" cf gs wcvgn { "r gthqto "vj g" f wkgu" cu" f ghkpgf "y kj kp" vj ku'egt vhllec vqp" r tqxkukqp0'
- \*D+ " Kuwpeg"qh'cp" EEC. "P QX. "qt "Egcug" cpf "F guku" Qtf gt0'
- \*E+ " Hckwtg" vq" hwm { "r gthqto " gpvhlcpo gpvci' eqo o ko gpw" cu" f gvckrgf " y kj kp" vj g" r gto kv' eqpf kkpup" cpf "ur gekhlec vqp0'
- \*F+ " F go qpucvqp" qh'gttqpgqwu" f qewo gpvcvqp" qt "tgr qt vpi "vgej pls wgu0'
- \*G+ " Ej gc vpi "qt "eqr { kpi "cpqvj gt "ecpf kf cvga" y qtm'qp" cp "gzco kpcvqp0'
- \*H+ " Kpvgpvqp cn' hcnuklec vqp" qh'tgeqtf u0'
- \*I+ " F ktevpi "c" uwdqtf kpcvg" vpf gt "f ktev" qt "kpf ktev" uwur gt xkukqp" vq" r gthqto "cp { "qh' vj g" cdqxs" cevqp0'
- \*J+ " F kuo kuon'ltqo "c" eqo r cp { "hqt" cp { "qh' vj g" cdqxs" tgcuppu0'
- \*K+ " Uwur gpukqp" qt "tgxqecvqp" qh'qpga' egt vhllec vqp" d { "cpqvj gt "gpvhl { 0'

"

Uwur gpukqp" qt "tgxqecvqp" qh'c" egt vhllec vqp" y kn'dg" ugpv'd { "egt vhlgf "o ckl' vq" vj g" egt vhllec vqp" cpf "vj g" Eqtr qtcvg" J gcf "qh' vj g" eqo r cp { "vj cv' go r m { u" vj g" egt vhllec vqp0'

"

C" egt vhllec vqp" j cu" vj g" tli j v' vq" cr r gcn' cp { "cf xgtug" cevqp" y j lej "tguwnu" kp" uwur gpukqp" qt "r gto cpgpv" tgxqecvqp" qh'egt vhllec vqp" d { "tgr qpfp kpi . "kp' y tkkpi . "vq" vj g" Ej lgh" Gpi kpggt "y kj kp" 32" ecrgpf ct "f c { u" chgt "tgegkxkpi "pqvleg" qh' vj g" r tqr qugf "cf xgtug" cevqp0'

"

Ej lgh" Gpi kpggt "  
3758" O ckl' Ugt xleg' Egpvt "  
Tcrkij . "PE" 498; ; /3758"

"

39DR06T0: "( '39DR06T0 3"

Hckwtg"vq"cr r gcn'y kj lp"32"ecrgpf ct"fc{u'y km'tguwn"lp"vj g'r tqr qugf "cf xgtug"cevkqp"dgeqo kpi " ghgevkxg"qp"vj g'f cvg"ur gekhgf "qp"vj g'egt vkhgf "pqveg0"Hckwtg"vq"cr r gcn'y kj lp"vj g'vko g'ur gekhgf " y km'tguwn"lp"cy ckggt"qh'cmhwwt g'cr r gcn'ki j w'tgi ctf kpi "vj g'cf xgtug"cevkqp"vcngp0"Vj g'egt vkhgf " y km'pq'vg"cmjy gf "vq'r gthqto "f wkgu"cuuqekcvgf "y kj "vj g'egt vkhgf "cevkqp"fwtkpi "vj g'cr r gcn'r tqegu0"

Vj g'Ej kgh'Gpi kpggt "y km'j gct "vj g'cr r gcn'cpf "o cng"cf gekukqp"y kj lp"9"fc{u'qh'j gct kpi "vj g'cr r gcn'o" F gekukqp"qh'vj g'Ej kgh'Gpi kpggt "y km'dg"lpcn'cpf "y km'dg"o cf g'lp"y tkkpi "vq"vj g'egt vkhgf "

Ki" c" egt vkhgf "cevkqp" ku" vgo r qtctkq " uwur gpf gf " yj g" egt vkhgf "cevpv" uj cm'r cuu" cp{ " cr r rkecdng" y tkwgp" gzco kpcvkqp"cpf "cp{ "r tqhkegpe{ "gzco kpcvkqp"cv'vj g'eqpenwukqp"qh'vj g'ur gekhgf "uwur gpukqp"r gkqf " r tkt "vq"j cxkpi "vj g'egt vkhgf "cevkqp"t gkpuvcgf 0"

### Measurement and Payment

*Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers cpf Certified Designer*"y km'dg"lpekf gpwcn'vq"vj g'r tqlgv'hqt "y j lej "pq"r kgeveqo r gpucvkqp" y km'dg"o cf g0"

### PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

\*4/42/29+\*Tgx05/3; /35+ "

327/38."452." 23"

UR3'I 3: 3"

Y cvgt "f kfej cti g" htqo " dqttqy " r k' ukgu" uj cm' pqv' ecwug" uwthceg" y cvgtu" vq" gzeggf "72" P VWu" \*pgr j gmo gtle"wt dlf k{ "wkv+"lp"ut gco u"pqv'f guki pcvgf "cu'tqww"y cvgtu"cpf "32" P VWu"lp"ut gco u. " rangu"qt "tgugt xqktu" f guki pcvgf "cu'tqww"y cvgtu0" Hqt "rangu"cpf "tgugt xqktu"pqv'f guki pcvgf "cu'tqww" y cvgtu. "vj g'wt dlf k{ "uj cm'pqv'gzeggf "47" P VWu0"Ki'vj g'wt dlf k{ "gzeggf u'vj gug"rgxgn'f wg"vq"pcwtcn' dceni tqwvf "eqpf kkpqu. "vj g'gz kkpki "wt dlf k{ "rgxgn'uj cm'pqv'dg"lpet gcugf 0"

Ki'f wtkpi "cp{ "qr gtcvkpi "fc{. "vj g'f qy put gco "y cvgt "s wcrk{ "gzeggf u'vj g'ucpf ctf. "vj g'Eqpvtcevqt " uj cm'f q"cm'qh'vj g'hqmy kpi <"

\*C+ " Gkij gt "egcug" f kfej cti g"qt "o qf kh{ "vj g'f kfej cti g"xqno g"qt "wt dlf k{ "rgxgn'vq" dtkpi "vj g' f qy put gco "wt dlf k{ "rgxgn'lpvq"eqo r rkepeg. "qt"

\*D+ " Gxcnxcvg"vj g'wr ut gco "eqpf kkpqu"vq" f gvgto kpg"kh'vj g'gzeggf cpeg"qh'vj g'ucpf ctf "ku'f wg"vq" pcwtcn'dceni tqwvf "eqpf kkpqu0" Ki'vj g'dceni tqwvf "wt dlf k{ "o gcuwgo gpw"gzeggf "vj g' ucpf ctf. "qr gtcvkqp"qh'vj g'r k'cpf "f kfej cti g"ecp"eqpvkpw"cu"mipi "cu"vj g'ut gco "wt dlf k{ " rgxgn'ctg"pqv'lpet gcugf "f wg"vq"vj g'f kfej cti g0"

\*E+ " O gcuwg"cpf "tgeqtf "vj g'wt dlf k{ "vgu"t guwnu" \*vko g. "f cvg"cpf "uco r rgt+"cv'cm'f ghkpgf " uco r rki "mkecvkpu"52"o kpwgu"chgt "uctwr "cpf "cv'c"o kpo wo. "qpg"cf f kkpkn'uco r rki "qh' cm'uco r rki "mkecvkpu"fwtkpi "vj cv'46/j qwt "r gkqf "lp"y j lej "vj g'dqttqy "r k'ku'f kfej cti kpi 0"

\*F+ " P qvkh{ "F Y S "y kj lp"46"j qwtu"qh'cp{ "ut gco "wt dlf k{ "ucpf ctf "gzeggf cpegu"vj cv'ctg"pqv' dtqwi j v'lpvq"eqo r rkepeg0"

F wtkpi " yj g" Gpxktqpo gpwcn' Cuuguu gpv' tgs wktgf " d{ " Ctvlrg" 452/6" qh' yj g" 2018"Standard Specifications." yj g'Eqpvtcevqt "uj cm'f ghkpg"vj g'r qkp'v'cy j lej "vj g'f kfej cti g'gpvgtu"lpvq"vj g'Ucvgau"

39DR060T0: '( '39DR060T0 3''

uwthceg'y cvgtu'cpf 'vj g'cr r tqr tlevg'uco r rñpi 'ñecvñpu0''Uco r rñpi 'ñecvñpu'uj cñl'penwf g'r qñpw' wr utgco 'cpf 'f qy putgco 'ltqo 'vj g'r qñp'cv'y j lej 'vj g'f kñj cti g'gpvgtu'vj gug'y cvgtu0''Wf utgco '' uco r rñpi 'ñecvñp'uj cñl'dg'ñecvñf 'uq'vj cv'k'ku'pqv'kñhñgpegf'd{'dceny cvgt'eqpf kñkpu'cpf '' tgr tguvpw'pcwtcñd'ceni tqwpf'eqpf kñkpu0''F qy putgco 'uco r rñpi 'ñecvñp'uj cñl'dg'ñecvñf 'cv'vj g' r qñp'v'y j gtg'eqo r rñvg'o kñpi 'qh'vj g'f kñj cti g'cpf 'tgegkñpi 'y cvgt'j cu'qeewtgtf 0''

Vj g'f kñj cti g'uj cñl'dg'emugñ'o qñkqtgf 'y j gp'y cvgt'ltqo 'vj g'f gy cvgtkpi 'cevñkñgu'ku'kñtqf wegf '' kñvq'lwñkf levñpcñ'y gñrpf u0''Cp{'ñko g'xkñdrg'ugf ko gpvñkñp'\*f gr quñkñp'qh'ugf ko gpv'ñq'vj g' y gñrpf 'uwthceg'ku'qdugtxgf.'vj g'f gy cvgtkpi 'cevñkñk'y kñl'dg'uñur gpf gf 'wñvñl'wñdkf kñ{'rñxgn'k'vj g' uñkñpi 'dcuñp'ecp'dg'tgf wegf 'q'c'rñxgn'y j gtg'ugf ko gpv'f gr quñkñp'f qgu'pqv'qeewt0''Uñkñpi 'qh' y gñrpf 'uwthceg'ltqo 'uñur gpf gf 'erñ{'r ctvñrgu.'qeewtkpi 'chñgt'gñcr qtcevñp'qt'kñhñtcevñp.'f qgu' pqv'eqpñkñwg'ugf ko gpvñkñp0''P q'cevñkñkñgu'uj cñl'qeewt'kñ'y gñrpf u'vj cv'cf xgtugñ{'chñgev'vj g' hñpñvñkñpi 'qh'c'y gñrpf 0''Xkñdrg'ugf ko gpvñkñp'y kñl'dg'eqpñkf gtgf 'cp'kñf kñcñkñp'qh'r quñkñdrg' cf xgtug'ko r cev'q'p'y gñrpf 'wug0''

Vj g'Gpi kñpgt'y kñl'r gthñto 'kñf gr gpf gpv'wñdkf kñ{'vñu'q'p'c'tcñf qo 'dcuñ0''Vj gug'tguñu'y kñl'dg' o cñpñkñpf 'kñ'c'ñi 'y kñj kñ'vj g'r tñlgev'tgeqtf u0''Tgeqtf u'y kñl'penwf g.'cv'c'o kñko wo.'wñdkf kñ{'vñu' tguñu.'ñko g.'f cvg'cpf 'pco g'qh'uco r rñt0''Uj qñw'vj g'F gr ctvo gpvñ'uñu'tguñu'gzeggf 'vj qug'qh'vj g' Eqpñtcevñtñ'uñu'tguñu.'cp'ko o gf kñv'vñu'uj cñl'dg'r gthñto gf 'lqñwñ{'y kñj 'vj g'tguñu'uñr gtugf kpi '' vj g'r tñxkñw'uñu'tguñu'qh'dqj 'vj g'F gr ctvo gpv'cpf 'vj g'Eqpñtcevñt0''

Vj g'Eqpñtcevñt'uj cñl'wug'vj g'NCDOT Turbidity Reduction Options for Borrow Pits Matrix, cñkñdrg' cv' [j wr <ly y y ðef qñ qñ lñ qñ lñ gñcñkñpñlñ r ñej kñhñgpi lñcñf uñf gñkñgñ qñ uñf qñ pññf uñl' HñguñVñdkf kñ{T gñf wñkñpQñ vñqñUj gñvñt f ñ}](#) vq' r rñp.'' f gñkñ p.'' eqpñtwev.'' cpf '' o cñpñkñp' DO Ru' vq' cf f tguñ'y cvgt's wñkñ{'uñcñf ctf u0''Vñgt'KO gñj qñf u'kñpñwf g'uñkñpi 'dcuñpu'y j lej 'ctg'uñcñf ctf '' eqo r gpñcñqt{'DO Ru'Qñj gt'Vñgt'KO gñj qñf u'ctg'pñpñeqo r gpñcñqt{'cpf 'uj cñl'dg'wugf 'y j gp'pggf gf '' vq'o gñv'vj g'utgco 'wñdkf kñ{'uñcñf ctf u0''Vñgt'KKO gñj qñf u'ctg'cñuq'pñpñeqo r gpñcñqt{'cpf 'ctg'qñ vñkñp' vj cv'o c{'dg'pggf gf 'hñt'r tñvñevñp'qh'tctg'qt'wñkñ wñt'guqñtegu'qt'y j gtg'ur gñkñl'gñxñkñqpo gpñcñl' eqpf kñkñp'gzkñv'cv'vj g'ukñg'y j lej 'j cxg'ñf 'vq'cf f kñkñpcññtñs wñtgo gpñu'dgkñpi 'r ñegf 'kñ'vj g'F Y S ñu' 623'Egtñkñcñkñp'cpf 'cr r tñxññññgñtñu.'Kñrñvñf 'Y gñrpf 'Rgtñ kñu.'Tñr ctñkñp'Dñhñgt'Cñwñ qt kñ cñkñp' qt'c'F QV'Tgññcñ cñkñp'Rñpñu'Gñxñkñqpo gpñcñl'Cñugñuñ gpñ'hñt'vj g'ur gñkñkñe'ukñg0'' Uj qñw'vj g' Eqpñtcevñt'gzj cñwñ'cñl'Vñgt'KO gñj qñf u'q'p'c'ukñg'gñññwñkñg'qh'tctg'qt'wñkñ wñt'guqñtegu'qt'ur gñkñl' gñxñkñqpo gpñcñl'eqpf kñkñp.'Vñgt'KKO gñj qñf u'o c{'dg'tñs wñtgf 'd{'tñgñ wñcñqtñu'q'p'c'ecug'd{'ecug'dcuñu' r gt'uñr r rñgo gpñcñl'ci tñggo gpñ0''

Vj g'Eqpñtcevñt'o c{'wug'cevñp'gzej cpi g'ecñ cñkñ{'\*EGE+'xñwñgu'ltqo 'r tñr quñf 'ukñg'dñtkñpi u'vq'r rñp'' cpf 'f gñgññr 'vj g'dñf 'hñt'vj g'r tñlgev0''EGE'xñwñgu'gzeggf kpi '37'o kñkñs wñxñrñpñu'r gt'322'i tco u'qh' uñkññ c{'kñf kñcñv'c'j kñj 'r qñvñkññññt'wñdkf kñ{'cpf 'uj qñw'dg'cxñkf gf 'y j gp'f gy cvgtkpi 'kñvq'uwthceg' y cvgt'ku'r tñr quñf 0''

P q'cf f kñkñpcññeqo r gpñcñkñp'hñt'o qñkñkñkñpi 'dñttqy 'r kñf kñj cti g'y kñl'dg'r cñf 0''

**PROJECT SPECIAL PROVISIONS**

**ROADWAY**

"

**CLEARING AND GRUBBING - METHOD II:**

" \* /39/24+Tgx0 /3: /37+ "

422"

UR4'T24C"

Rgthqto "ergctkpi "qp"vj ku"rtqlgev"vq"vj g"rko ku"guwdrkuj gf "d{ "O gvj qf "ōKō"uj qy p"qp"Uwcpf ctf " F tcy kpi "P q0422Q4"qh'vj g"2018"Roadway Standard Drawings0Eqpxgpkqpcn'ergctkpi "o gvj qf u" o c{ "dg"wgf "gzegr v'y j gtg'r gto k'f tcy kpi u'qt'eqpf kkpupj cxg'dggp'kpenw gf "kp"vj g'r tqr qucnly j lej " tgs wkt g'egt vclp"ctgcu"vq"dg'ergctgf "d{ "j cpf "o gvj qf u0"

"

**BURNING RESTRICTIONS:**

" \*9/3/; 7+ "

422."432."437"

UR4'T27"

Qr gp'dwtpkpi 'ku'pqvr gto kwgf "qp"cp{ 'r qt vqp"qh'vj g'tki j vqh'y c{ "rko ku"guwdrkuj gf "hqt"vj ku"rtqlgev0" F q'pqv'dwtp"vj g'ergctkpi . 'i twddkpi "qt'f go qrkxqp'f gdt ku'f guki pcvgf "hqt'f ku' qucnl'cpf 'i gpgtcvgf "htqo " vj g'r tqlgev'cv'iqecvqpuy kj kp"vj g'r tqlgev'rko ku."qh'h'vj g'r tqlgev'rko ku"qt"cv'cp{ "y cuvg"qt"dqttqy " ukgu'kp"vj ku'eqwv{0"F ku' qug"qh'vj g'ergctkpi . 'i twddkpi "cpf 'f go qrkxqp'f gdt ku'd{ "o gcpu'qvj gt"vj cp" dwtpkpi . "ceeqtf kpi "vq"ucvg"qt'iqecn'twgu'cpf "tgi wv vqp0"

"

**SHOULDER AND FILL SLOPE MATERIAL:**

" \*7/43/24+ "

457."782"

UR4'T67"C"

**Description**

"

Rgthqto "vj g"tgs wkt gf "uj qwf gt"cpf "uqr g"eqpux wv vqp"htq "vj ku"rtqlgev"kp"ceeqtf cpeg"y kj "vj g" cr r rlecdrq'tgs wkt go gpw'qh'Ugevqp"782"cpf "Ugevqp"457"qh'vj g"2018 Standard Specifications0

"

**Measurement and Payment"**

"

Y j gtg"vj g"o cvgtkclnj cu'dggp"qdvclpgf "htqo "cp"cwj qtk gf "uqenr kg"qt"htqo "c"dqttqy "uqwteg"cpf " Borrow Excavation ku'pqv'kpenw gf "kp"vj g'eqpvtcev"pq'f kgev'r c{ o gpv'y kn'dg"o cf g"htq "vj ku'y qtm" cu"vj g'eqw'qh'vj ku'y qtmly kn'dg'r ctv'qh'vj g'y qtm'dgkpi "r ckl "cv'vj g'eqpvtcev'nwo r "uwo "r tleg"htq " Grading. ""K Borrow Excavation"ku'kpenw gf "kp"vj ku'eqpvtcev'cpf "vj g"o cvgtkclnj cu'dggp"qdvclpgf " htqo "cp"cwj qtk gf "uqenr kg"qt"htqo "c"dqttqy "uqwteg."o gcuwgo gpv'cpf "r c{ o gpv'y kn'dg"cu" r tqxkf gf "kp"Ugevqp"452"qh'vj g"2018 Standard Specifications"htq"Borrow Excavation0

"

39DR060T0: "( '39DR060T0 3"

**BRIDGE APPROACH FILLS<"**

\*32/3; /32+\*Tgx03/38/3: +"

644"

UR6'T24C"

**Description**

Dtkfi g" cr rtqcej "hkm" eqpukuv" qh' dcenthkmkpi " dgj kpf " dtkf i g" gpf " dgpv" y kj " ugrgev" o cvgtkcn' qt" ci i tgi cvg" vq" uwr r qtv' cml' qt" r qt vqpu" qh' dtkf i g" cr rtqcej " uedu0" kpuwcm' f tclpu" vq" f tclp" y cvgt "ltqo " dtkf i g" cr rtqcej "hkm" cpf "i gqvgz vkgu" vq" ugr ctevg" cr rtqcej "hkm" ltqo "go dcpno gpv' hkm. "CDE" cpf " pcwten' i tqwpf " cu" tgs wktgf 0" " Hqt" dtkf i g" cr rtqcej " hkm" dgj kpf " gpf " dgpv" y kj " o gej cplecm{ " uedkkl gf " gcty j " \*OUG+ " cdwo gpv" y cm. " tglphqtegf " dtkf i g" cr rtqcej " hkm" y kj " OUG" y cm' tglphqtego gpv' eqppgevgf " vq" gpf " dgpv' ecr u0" Eqputwev' dtkf i g" cr rtqcej "hkm" kpf " ceeqtf cpeg" y kj " vj g" eqpvtcev. " ceegr vgf " uwdokwcn" cpf "423: " Tqcf y c{ " Ucpf ctf " F tcy kpi " P qu0' 644023" qt "644024" qt" Tqcf y c{ " F gckl' F tcy kpi " P q0644F 320"

Fghkg" dtkf i g" cr rtqcej "hkm" v{r gu" cu" hqmgy u<"

*Approach Fills* "6" Dtkfi g" cr rtqcej "hkm" kpf " ceeqtf cpeg" y kj "423: " Tqcf y c{ " Ucpf ctf " F tcy kpi " P qu0' 644023" qt "644024" qt " Tqcf y c{ " F gckl' F tcy kpi " P q0644F 32="

*Standard Approach Fill* "6" V{r g" K Ucpf ctf " Dtkfi g" Cr rtqcej "hkm" kpf " ceeqtf cpeg" y kj "423: " Tqcf y c{ " Ucpf ctf " F tcy kpi " P q0644023="

*Modified Approach Fill* "6" V{r g" KKO qf hkgf " Dtkfi g" Cr rtqcej "hkm" kpf " ceeqtf cpeg" y kj "423: " Tqcf y c{ " Ucpf ctf " F tcy kpi " P q0644024" cpf "

*Reinforced Approach Fill* "6" V{r g" KKT Tglphqtegf " Dtkfi g" Cr rtqcej "hkm" kpf " ceeqtf cpeg" y kj " Tqcf y c{ " F gckl' F tcy kpi " P q0644F 320"

**Materials**

Tghgt "vq" F kxkukqp "32" qh' vj g" 2018" Standard Specifications0"

**Item"****Section**

I gqvgz vkgu" V{r g" 3"

3278"

Rqtvrpf " Ego gpv' Eqpetvg"

3222"

Ugrgev' O cvgtkcn"

3238"

Udwthceg' F tclpci g' O cvgtkcn"

3266"

Rtqxf g" V{r g" 3" i gqvgz vkgu" hqt " ugr ctevkqp" i gqvgz vkgu" cpf " Encuu" D" eqpetvgv" hqt " qwrgv' r cf u0" " Wug" Encuu" X" qt " Encuu" XKugrev' o cvgtkcn' hqt " ucpf ctf " cpf " o qf hkgf " cr rtqcej "hkm" Hqt " cp" cr rtqcej "hkm" dgj kpf " c" dtkf i g" gpf " dgpv" y kj " cp" OUG" cdwo gpv' y cm " dcenthkm' vj g' tglphqtegf " cr rtqcej "hkm" y kj " vj g' uco g' ci i tgi cvg" v{r g" cr rtqxf " hqt " vj g' tglphqtegf " | qpg' kpf " vj g' ceegr vgf " OUG" y cm uwdokwcn' Hqt " OUG" y cm' ci i tgi cvg. " tglphqtego gpv' cpf " eqppgevt " o cvgtkcn. " ugg" vj g" *Mechanically Stabilized Earth Retaining Walls* " r tqxkukqp0" Rtqxf g" RXE" r kr gu. " hkwkpi u" cpf " qwrgv' r kr gu" hqt " udwthceg" f tclpci g' o cvgtkcn' Hqt " RXE" f tclp' r kr gu. " wug" r kr gu" y kj " r gthqtevkqp' vj cv' o ggv' CCUI VQ" O "49: 0"

## Construction Methods

"

Gzecxcvg"cu"pgeguuct {"hqt"cr r tqcej "hkm"lp"ceeqtf cpeg"y kj "vj g"eqpvtcev0"P qvkh{"vj g"Gpi kpggt" y j gp"hwpf cvkqp"gzecxcvqp"ku"eqo r rvg0"F q"pqv'r rneg"ugr ctcvqp"i gqvgzvkgu"qt"ci i tgi cvg"wpvkl" cr r tqcej "hkmf ko gpukqpu"cpf "hwpf cvkqp"o cvgtkcnlctg"cr r tqxgf 0"

"

Hqt"tgkphqtegf "cr r tqcej "hkm."ecuv"O UG"y cml'tgkphqtego gpv"qt"eqppgevqtu"lpvq"gpf "dgpv"ecr "dceny cmi"y kj lp"5\$"qh'rqecvqpu"uj qy p"lp"vj g"ceegr vgf "O UG"y cml'uwo kvcn0"Kpuvcm'O UG"y cml' tgkphqtego gpv'y kj "vj g"qtlgpcvqp."f ko gpukqpu"cpf "pwo dgt"qh'rc{gtu"uj qy p"lp"vj g"ceegr vgf "O UG" y cml'uwo kvcn0"Kic'tgkphqtegf "cr r tqcej "hkm"lf guki pgf "y kj "i gqi tlf "tgkphqtego gpv'go dgf f gf "lp" cp"gpf "dgpv"ecr."ew'i gqi tlf u"vq"vj g'tgs vkt gf "rgpi vj u"cpf "chgt"ugewtkpi "gpf u"qh'i gqi tlf u"lp"r rneg." tgtqm'cpf "tgy tcr "r qtvkpu"qh'i gqi tlf u"pqv'go dgf f gf "lp"vj g"ecr "vq"r tqvgevi gqi tlf u"tqo "f co ci g0" Dghqtg"r rnelpi "ci i tgi cvg."r wni' gqu{pvj gvle"tgkphqtego gpv'vcw'uq"vj cv'k'ku"lp"vgpukqp"cpf "tgg"qh' nkpnu."hqr f u."y tlpnngu"qt"etgcugu0"

"

Cwcej "ugr ctcvqp"i gqvgzvkgu"vq"gpf "dgpv"ecr "dceny cmi"cpf "y lpi "y cmi"y kj "cf j gukxgu."vcr gu"qt" qvj gt"cr r tqxgf "o gvj qf u0"Qxgtner "cf lcegpv'ugr ctcvqp"i gqvgzvkgu"cv'hcuv'3: "\$y kj "ugco u"qtlgpcvqf " r ctemgn'vq"vj g"tqcf y c{"egpvgtkpg0"J qrf "i gqvgzvkgu"lp"r rneg"y kj "y kg"uocr ngu"qt"cepej qt"r kpu"cu" pggf gf 0" "Eqpcev" vj g" Gpi kpggt" y j gp" gzkvki " qt" hwwt g" qdwt vevkpu" uwej " cu" hwpf cvkqp." r cxgo gpw." r k gu." kprgu" qt" wkkkgu" y km' kpvgtgtg" y kj "ugr ctcvqp" i gqvgzvkgu" qt" O UG" y cml' tgkphqtego gpv0"

"

Kpuvcm'eqpvkpwqu'r gthqtcvgf "RXE"ftclp"r k gu'y kj "r gthqtcvqpu'r qkvpki "f qy p"lp"ceeqtf cpeg"y kj " 423: "Tqcf y c{"Ucpf ctf "F tcy lpi "P qu0644023"qt"6440240"Eqppgev'ftclp"r k gu"vq"qwwgv'r k gu"lwuv" dg{qpf "y lpi "y cmi0" "Eqppgev" RXE" r k gu." hwwpi u" cpf "qwwgv" r k gu" y kj "uqkgrpv" ego gpv' lp" ceeqtf cpeg"y kj "Ctverg": 37/5"qh'vj g"2018 Standard Specifications"cpf "r rneg"qwwgv"r cf u"lp" ceeqtf cpeg"y kj "423: "Tqcf y c{"Ucpf ctf "F tcy lpi "P q0: 370250"

"

Kpuvcm'ftclp"r k gu"uq"y cvgt"ftclpu"vqy ctf u"qwwgw0"Kic'vj g"i tqwpf y cvgt"grgxcvqp"ku"cdqyg"ftclp" r k g"grgxcvqpu."tclug"ftclpu"vr "vq"o clpvclp"r qukkxg"ftclpci g"vqy ctf u"qwwgw0"Rrneg"r k g"urgxgu" lp"qt"wpf gt"y lpi "y cmi"uq"y cvgt"ftclpu"vqy ctf u"qwwgw0"Wug"urgxgu"vj cv'ecp"y kj ucpf "y lpi "y cmi' rqc f u0"

"

Rrneg"ugrgev'o cvgtkcnlqt"ci i tgi cvg"lp": "\$vq"32\$"vj lenihku0"Eqo r cev'hpg"ci i tgi cvg"hqt"tgkphqtegf " cr r tqcej "hkm"lp"ceeqtf cpeg"y kj "Uwdctverg"457/5"E+"qh'vj g"2018"Standard Specifications"gzegr v" eqo r cev'hpg"ci i tgi cvg"vq"c"f gpukv{"qh'cv'rgcu"; : ' 0"Eqo r cev'ugrgev'o cvgtkcnl'ht"ucpf ctf "qt" o qf hkgf "cr r tqcej "hkm"cpf "eqctug"ci i tgi cvg"ht"tgkphqtegf "cr r tqcej "hkm"y kj "c" xkdtcvqt {" eqo r cev'vq"vj g"ucvukrevqp"qh'vj g"Gpi kpggt0"F q"pqv'f kur rneg"qt"f co ci g'i gqu{pvj gvleu."O UG"y cml' tgkphqtego gpv'qt"ftclpu"y j gp"r rnelpi "cpf "eqo r cev'lp" "ugrgev'o cvgtkcnlqt"ci i tgi cvg0"Gpf "f wo r lpi " f kgevn"qp"i gqu{pvj gvleu"ku"pqv'r gto kvgt 0"F q"pqv'qr gtcvg"j gcx {"gs vkr o gpv'qp"i gqu{pvj gvleu"qt" f tclp"r k gu"wpvkl'vj g {"ctg"eqxgtgf "y kj "cv'rgcu": "\$qh'ugrgev'o cvgtkcnlqt"ci i tgi cvg0"Tr rneg"cp {" f co ci gf "i gqu{pvj gvleu"qt"ftclpu"vq"vj g"ucvukrevqp"qh'vj g"Gpi kpggt0"Y j gp"cr r tqcej "hkm"gzvgpf " dg{qpf "dtkf i g"cr r tqcej "urdu."y tcr "ugr ctcvqp"i gqvgzvkgu"qxgt"ugrgev'o cvgtkcnlqt"ci i tgi cvg"cu" uj qy p"lp"423: "Tqcf y c{"Ucpf ctf "F tcy lpi "P q0644023"qt"423: "Tqcf y c{"F gvcl'F tcy lpi "P q0' 644F 320"

"

## Measurement and Payment

"

Type I Standard Approach Fill, Station \_\_\_\_."Type II Modified Approach Fill, Station \_\_\_\_"cpf "Type III Reinforced Approach Fill, Station \_\_\_\_"y kn'dg'r clf "cv'j g'eqpvtcev'hwo r "uwo "r tleg0"Vj g" nwo r "uwo "r tleg"lqt" gcej "crr tqcej "hkm'y kni dg" hwm'eqo r gpucvqp"lqt" r tqxkf lpi "rdqt."vqqu." gs wkr o gpv'cpf "crr tqcej "hkm'o cvgtknu."gzeccvki . "dcenihkm'pi . "j cwvki "cpf "tgo qxkpi "gzeccvki " o cvgtknu."kpucmki "i gqvz vku"cpf "ftclpu."eqo r cevki "dcenihkm'cpf "uwr r n' lpi "ugrgev'o cvgtknu" ci i tgi cvg."ugr ctvqp"i gqvz vku."ftclp" r kr gu." r kr g"urgxgu."qwwgv" r kr gu" cpf " r cf u" cpf " cp { " lpekf gpvnu'pgeguuct { "vq'eqpvtcev'crr tqcej "hkm'dgj lpf "dtkf i g"gpv "dgpv0"

"

Vj g'eqpvtcev'hwo r "uwo "r tleg"lqt"Type III Reinforced Approach Fill, Station \_\_\_\_"y kn'icnu"dg" hwm' eqo r gpucvqp"lqt"uwr r n' lpi "cpf "eqppgevki "O UG"y cm'tglphqtgo gpv"vq"gpv "dgpv'ecr u"dw'pqv" f guki plpi "O UG"y cm'tglphqtgo gpv"cpf "eqppgevqtu0""Vj g"equ'qh'f guki plpi "tglphqtgo gpv"cpf " eqppgevqtu'lqt'tglphqtgo" crr tqcej "hkm'dgj lpf "dtkf i g"gpv "dgpv'y kj "O UG"cdwo gpv'y cm'y kn'dg" lpekf gpvnu'v'j g'eqpvtcev'wpl'r tleg"lqt" MSE Retaining Wall No. \_\_0'

"

Rc { o gpv'y kn'dg'o cf g'wpgt<"

"

### Pay Item

V{r g"KUcpf ctf "Crr tqcej "Hkm"Ucvqp"aaaa"  
V{r g"KKO qf klgf "Crr tqcej "Hkm"Ucvqp"aaaa  
V{r g"KKT gphqtg" Crr tqcej "Hkm"Ucvqp"aaaa"

"

### Pay Unit

Nwo r "Uwo "  
Nwo r "Uwo "  
Nwo r "Uwo "

## ALTERNATE BRIDGE APPROACH FILLS FOR INTEGRAL ABUTMENTS:

" \*3/38/3: +"

644"

UR6"24D"

"

## Description

"

Cv'j g'Eqpvtcevqtu'qr vqp."wug"V{r g"C" Cngtpcv" Dtkf i g" Crr tqcej "Hkm"kpugcf "qh"V{r g"Kqt"KK Dtkf i g" Crr tqcej "Hkm"v' uwr r qtv' dtkf i g" crr tqcej "urdu'ht' lpgi tcn' dtkf i g" cdwo gpv0" Cp" cngtpcv" dtkf i g" crr tqcej "hkm'eqpuku"qh'eqpvtcevki "cp" crr tqcej "hkm'y kj "c"vgo r qtct { "i gqvz vku"y cm' dghqtg'r raelpi "cm'qt" c" r qtvqp"qh'v'j g'eqpetvg"lqt"v'j g"dceny cm'cpf "y lpi "y cm'qh'v'j g' lpgi tcn'gpv " dgpv'ecr 0"Vj g"vgo r qtct { "i gqvz vku"y cm'ku'f guki pgf "lqt" c"etcpg"uwej cti g."tgo clpu"lp" r rceg"cpf " crki pgf "uq"v'j g'y cm'hcge" hpevqpuc'cu" c" hqto "lqt"v'j g'gpv "dgpv'ecr "dceny cm'cpf "y lpi "y cmu0"kpucm' f tclpu."y grf gf "y kg"lcelpi "cpf "i gqvz vku"cpf "dcenihkm'crr tqcej "hkm"cpf "vgo r qtct { "y cm'y kj " ugrgev'o cvgtknu"cu" tgs wkgf 0" "F ghpg" oi gqvz vku"cu" ugr ctvqp"qt" tglphqtgo gpv"i gqvz vku. " ovgor qtct { "y cm'cu'c"vgo r qtct { "i gqvz vku"y cm'cpf "cngtpcv" crr tqcej "hkm'cu'c"V{r g"C" Cngtpcv" Dtkf i g" Crr tqcej "Hkm"p"ceeqtf cpeg'y kj "423: "Tqcf y c { "Ucpf ctf "F tcy lpi "P q06440250"

"

## Materials

"

Tghgt"v'F kxkulp"32"qh'v'j g"2018"Standard Specifications0"

"

### Item"

I gqvz vku"  
Rqtvrpf "Ego gpv'Eqpetvg"  
Ugrgev'O cvgtknu"

### Section

3278"  
3222"  
3238"

39DR06T0: '( '39DR06T0 3''

Uwduw'hceg'F tclpci g'O cvgtknu''

3266''

Y grf gf 'Y ktg'Tglphqtego gpv''

3292/5''

''

Hqt'vgo r qtct { 'y cmu.'wug'y grf gf 'y ktg'tglphqtego gpv'hqt'y grf gf 'y ktg'hcelpi 'cpf 'V{r g'7'i gqvzvkrg' hqt'tglphqtego gpv'i gqvzvkrgu0'Wug'V{r g'7'i gqvzvkrg'y kj 'rgpi vj u'cpf 'cp'wako cvg'vgpukg'utgpi vj '' cu'uj qy p'lp''423: ''Tqcf y c{ ''Ucpcf ctf 'F tcy lpi ''P q0'6440250''Rtqxf g'V{r g'3''i gqvzvkrg''hqt'' ugr ctcvkqp'i gqvzvkrgu'cpf 'Eruu'D'eqpetvg'hqt'qwgvr cf u0'Wug'Eruu'X'qt'Eruu'XKlugev'o cvgtkn' hqt'cngtpcvg'cr r tqcej 'hku'cpf 'vgo r qtct { 'y cmu0'Rtqxf g'RXE'r kr gu.'hvkpi u'cpf 'qwgvr'r kr gu'hqt'' uwduw'hceg'f tclpci g''o cvgtknu0''Hqt''RXE''f tclp''r kr gu''wug''r kr gu'y kj ''r gthqtcvkpu''vj cv'o ggv' CCUJ VQ'O '49: 0'

''

### Construction Methods

Gzecxcvg'cu'pgeguact { ''hqt'cngtpcvg'cr r tqcej 'hku'cpf 'vgo r qtct { 'y cmu'lp'ceeqtf cpeg'y kj ''vj g' eqptcev0''P qvkh{ ''vj g'Gpi lpggt'y j gp'hqwpf cvkp'gzecxcvkp'ku'eqo r rgv0''F q'pqv'r neg'i gqvzvkrgu'' wvkl'cr r tqcej 'hknf ko gpukpu'cpf 'hqwpf cvkp'o cvgtkn'ctg'cr r tqxgf 0'

''

Kpuvni' gqvzvkrgu'cu'uj qy p'lp''423: ''Tqcf y c{ ''Ucpcf ctf 'F tcy lpi ''P q0'6440250''Cwcej 'ugr ctcvkqp' i gqvzvkrgu'v'gpf 'dgpv'ecr 'dceny cmu'cpf 'y lpi ''y cmu'cu'pggf gf 'y kj 'cf j gukgu.'vcr gu'qt'qj gt'' cr r tqxgf ''o gvj qf u0''Qxgtncr 'cf lcegpv'i gqvzvkrgu'cv'rgcu'3: \$'y kj 'ugco u'qtlgvpvf 'r ctcnrg'v'vj g'' tqcf y c{ ''egpvtlpg0''J qrf 'i gqvzvkrgu'lp'r neg'y kj 'y ktg'uvcr gu'qt'cpej qt'r kpu'cu'pggf gf 0''Eqpcev' vj g'Gpi lpggt'y j gp'gzkupi 'qt'hwwt g'qdutwvkvpu'uwej 'cu'hqwpf cvkpu.'r cxgo gpvu.'r kr gu.'lprgu'qt'' wvkl'gu'y knl'pvgthtg'y kj ''i gqvzvkrgu0'

''

Kpuvni'eqpvkpwvu'r gthqtcvgf 'RXE'f tclp'r kr gu'y kj 'r gthqtcvkpu'r qkvpi 'f qy p'lp'ceeqtf cpeg'y kj '' 423: ''Tqcf y c{ ''Ucpcf ctf 'F tcy lpi ''P q0'6440250''Eqppgev'f tclp'r kr gu'v'q'qwgvr'r kr gu'lwu'dg{qpf '' y lpi ''y cmu0''Eqppgev'RXE'r kr gu.'hvkpi u'cpf 'qwgvr'r kr gu'y kj 'uixgpv'ego gpv'lp'ceeqtf cpeg'y kj '' Ct'vrg': 37/5''qh'vj g''2018 Standard Specifications'cpf ''r neg'qwgvr'cf u'lp'ceeqtf cpeg'y kj ''423: '' Tqcf y c{ ''Ucpcf ctf 'F tcy lpi ''P q0: 370250'

''

Kpuvni'f tclp'r kr gu'v'q'y cvgt'f tclpu'v'qy ctf u'qwgvu0''H'i'vj g''i tqwpf y cvgt'grgxcvkp'ku'cdqxf'f tclp'' r kr g'grgxcvkpu.'tclug'f tclpu'vr 'v'q'o clpvclp'r qukkxg'f tclpci g'v'qy ctf u'qwgvu0''Rneg'r kr g'urgxgu'' lp'qt'wpgt'y lpi ''y cmu'v'q'y cvgt'f tclpu'v'qy ctf u'qwgvu0''Wug'urgxgu'vj cv'ecp'y kj uxcpf 'y lpi ''y cm' mcf u0'

''

Cv'vj g'Eqptcevqtai'qr vkp.'eqputwv'dqvqo 'r qtvkp'qh'lpvgi tcn'gpf 'dgpv'dghqtg'vgo r qtct { 'y cmu' cu'uj qy p'lp''423: ''Tqcf y c{ ''Ucpcf ctf 'F tcy lpi u''P q0'6440250''Gtgev'cpf 'ugv'y grf gf 'y ktg'hcelpi 'uq'' hcelpi 'hpevkpu'cu'c'hqto 'hqt'vj g'gpf 'dgpv'ecr 'dceny cmu0''Rneg'y grf gf 'y ktg'hcelpi 'cf lcegpv'v'g' gcej 'qj gt'lp'vj g'j qtk qpwn'cpf 'xgtv'ecn'f kgevkvpu'v'eqo r rgvni'eqxgt'vj g'vgo r qtct { 'y cm'hceg0'' Uci i gt'y grf gf 'y ktg'hcelpi 'v'q'etgcvg'c'twppki 'dqpf 'd{ ''egpvtlpi 'hcelpi 'qxgt'lqkvu'lp'vj g'tqy '' dgrqy 0'

''

Y tcr ''tglphqtego gpv'i gqvzvkrgu'cv'vj g'vgo r qtct { ''y cm'hceg''lp'ceeqtf cpeg'y kj ''423: ''Tqcf y c{ '' Ucpcf ctf 'F tcy lpi ''P q0'644025'cpf 'eqxgt'i gqvzvkrgu'y kj 'cv'rgcu'5\$'qh'ugrev'o cvgtkn0''Rneg'rc{gtu'' qh'tglphqtego gpv'i gqvzvkrgu'y kj lp'5\$'qh'mecvkvpu'uj qy p'lp''423: ''Tqcf y c{ ''Ucpcf ctf 'F tcy lpi ''P q0'6440250''Dghqtg'r ncelpi 'ugrev'o cvgtkn''r wni'tglphqtego gpv'i gqvzvkrgu'vw'u'v'g'g'ctg'lp'' vgpukp'cpf 'ltgg'qh'nkpmu.'hqr f u.'y tlpmgv'qt'etgcugu0''Kpuvni'tglphqtego gpv'i gqvzvkrgu'y kj ''vj g''



39DR060T0: "( '39DR060T0 3"

f kgevqpp"uj qy p"lp"423: "Tqcf y c{"Ucpcf ctf "F tcy lpi "P q0'6440250'"F q"pqv"ur deg"qt"qxgtncr " tglphqtego gpv'i gqvzvkgu"uq"ugco u'ctg'r ctcnngl"v"j g"vgo r qtct {"y cmlhceg0"

Rnreg'ugrev'o cvgtkcnlp": \$'v'32\$'y kmlhku'cpf "eqo r cev'ugrev'o cvgtkcnly kj "c'xldtcvt {"eqo r cevqt " vq"y g"ucvkucevqpp"qh'y g"Gpi kpggt0"F q"pqv'f kur neg"qt"fo ci g'i gqvzvkgu"qt"ftclpu'y j gp'r nckpi " cpf "eqo r cev'ugrev'o cvgtkcn0"Gpf "f wo r lpi "f kgevn {"qp"i gqvzvkgu"ku"pqv'r gt o kvgf0"F q"pqv" qr gtcvg"j gcx {"gs vkr o gpv"qp"i gqvzvkgu"qt"ftclp"r kr gu"wpvkl'y g {"ctg"eqxgtgf "y kj "cv'ngcu": \$'qh' ugrrev'o cvgtkcn0"Tr neg"cp {"f co ci gf "i gqvzvkgu"qt"ftclpu"vq"y g"ucvkucevqpp"qh'y g"Gpi kpggt0" Y j gp"cngtpcvg"cr r tqcej "hku"gzvgpf "dg {qpf "dtkf i g"cr r tqcej "urdu."y tcr "ugr ctcvqpp"i gqvzvkgu" qxgt'ugrev'o cvgtkcnlu"uj qy p"lp"423: "Tqcf y c{"Ucpcf ctf "F tcy lpi "P q0'6440250"

Vgo r qtct {"y cml'ctg'f guki pgf "hqt"b'lwtej cti g'r tguwtg'lp'ceeqtf cpeg'y kj "423: "Tqcf y c{"Ucpcf ctf " F tcy lpi "P q0'6440250'"K'v'j g"etcpv"uwtej cti g'y kn'gzeggf "y g"y cml'f guki p."eqpcev"v'j g"Gpi kpggt " dghqg'r quklqplpi "y g"etcpv"qxgt'tglphqtego gpv'i gqvzvkgu0"

### Measurement and Payment

Cngtpcvg"cr r tqcej "hku"y knldg'r ckl "cv'y g"eqpvtcev'hwo r "lwo "hqt"glkj gt"Type I Standard Approach Fill, Station \_\_\_\_"qt"Type II Modified Approach Fill, Station \_\_\_\_"dcugf "qp"y g"cr r tqcej "hkn'v'r g" yj cv'y g"cngtpcvg"cr r tqcej "hkn'ku'tgr nckpi 0"Vj g'hwo r "lwo "r tleg"ht"gej "cr r tqcej "hkn'y knldg'hwn' eqo r gpucvqpp" hqt"r tqxf lpi " ncdqt." vqqu." gs vkr o gpv" cpf " cngtpcvg" cr r tqcej " hkn' o cvgtkcn. " gzecxcvpi ."dcen'hknpi ."j cw'kpi "cpf "tgo qxkpi "gzecxcvgf "o cvgtkcn."eqpvtcev'vpi "vgo r qtct {"y cml. " kpuvcn'kpi "y cml'hckpi ."i gqvzvkgu"cpf "ftclpu"eqo r cev'vpi "dcen'hkn'cpf "uwr r n' lpi "ugrev'o cvgtkcn" ugr ctcvqpp"cpf "tglphqtego gpv'i gqvzvkgu."y grf gf "y kg"hcckpi ."ftclp"r kr gu."r kr g"urgxgu."qwg'v" r kr gu"cpf "r cf u"cpf "cp {"kpek gpvcn"pgeguuct {"vq"eqpvtcev'cngtpcvg"cr r tqcej "hkn'ht"lpvgi tcn' cdwo gpw0"

### SHOULDER WEDGE:

\* /42/33+\*Tgx0: /43/34+ "

832"

UR8'T25T"

Tgxkg"y g"2018"Standard Specifications"cu'hqmy u<

Page 6-21, Article 610-8. SPREADING AND FINISHING. "cf f "y g'hqmy lpi "chgt"tlpg"5; <

Cwcej "c'f gxleg."o qwpvgf "qp'uetggf "qhl'cxlpi "gs vkr o gpv."ecr cdrg'qh'eqpvtcev'vpi "c'uj qwrf gt'y gf i g" y kj "cp"cp'ng"qh'52"f gi tggur n'u"qt"o kpuw'6 f gi tggur cn'pi "y g"qwu'f g"gf i g"qh'y g"tqcf y c{." o gcwtgf "htqo "y g"j qtk qpvcn'r n'pg"lp"r neg"chgt"hp'cn'eqo r cev'vpi "qp"y g"hp'cn'uw'hceg"eqwtug0" Wug"cp"cr r tqxgf "o gej cplecn'f gxleg'y j lej "y kn'htqto "y g"cur j cn'o kzwtg"vq"r tqf weg"cy gf i g'y kj " wplkqto "vgzwtg."uj cr g"cpf "f gpuk {"y j kg"cwqo cv'ecm {"cf lw'vpi "vq"xct {"lpi "j gki j u0"

Rc {o gpv'htq "wug"qh'y ku'f gxleg'y knldg'kpek gpvcn'vq"y g"qy gt'r c {"kgo u'lp"y g"eqpvtcev0"

### PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:

\*33/43/22+ "

842"

UR8'T47"

Rtleg'cf lw'wo gpw'htq "cur j cn'dlpf gt "htq"r n'pv'o kz'y knldg'o cf g'lp'ceeqtf cpeg'y kj "Ugevqpp"842"qh' yj g"2018"Standard Specifications."

39DR06T0: "( '39DR06T0 3"

Vj g'dcug'r tleg'lpf gz 'lqt "cur j cn'dkpf gt 'lqt 'r rcpv'o lz 'ku"\$455.56"r gt 'vqp0'

"

Vj ku'dcug'r tleg'lpf gz 'tgr tguwpw'cp'cxgtci g'qh'HQOD0'ugnkpi 'r tlegu'qh'cur j cn'dkpf gt 'cv'uw r rkg t'u" vgt o lpcnu'qp'May 1, 20180'

"

**FINAL SURFACE TESTING NOT REQUIRED:**"

" \*7/3: /26+\*Tgx04/38/38+"

832"

UR8'T67"

Hlpcn'uwthceg"vgu'lp i "ku"pqv'tgs wktgf "qp"vj ku'r tqlgev'lp"ceeqtf cpeg"y kj "Ugevkqp"832/35."Final Surface Testing and Acceptance0'

"

**ASPHALT CONCRETE PLANT MIX PAVEMENTS:**

"4/42/3: +"

832.'3234"

UR8'T87"

Tgxkug'vj g"2018"Standard Specifications"cu'lqmqy u&lt;'

"

Page 6-17, Table 610-1, MIXING TEMPERATURE AT THE ASPHALT PLANT.'tgr rceg" y kj "vj g'hqmqy lpi &lt;"

"

TABLE 610-1 MIXING TEMPERATURE AT THE ASPHALT PLANT	
Binder Grade	JMF Temperature
RI '7: /4: ±RI '86/44"	472"/"4; 2ÅH'
RI '98/44"	522"/"547ÅH'

"

Page 6-17, Subarticle 610-3(C), Job Mix Formula (JMF), lines 38-39, f grvg'vj g'hqwtvj " rctci tcrj 0'

"

Page 6-18, Subarticle 610-3(C), Job Mix Formula (JMF), line 12,'tgr rceg"öUH; 0Cö'y kj " öU; 0Dö0'

"

Page 6-18, Table 610-3, MIX DESIGN CRITERIA.'tgr rceg'y kj "vj g'hqmqy lpi &lt;"

"

TABLE 610-3 MIX DESIGN CRITERIA									
Mix Type	Design ESALs millions <sup>A</sup>	Binder PG Grade <sup>B</sup>	Compaction Levels		Max. Rut Depth (mm)	Volumetric Properties			
			Gmm @			VMA  % Min.	VTM  %	VFA  Min.-Max.	%Gmm  @ Nini
			Nini	Ndes					
U607C"	>"3"	86"/"44""	8"	72"	3307"	3802"	602"/"802"	87"/": 2"	≤"; 307"
U; 07D"	2"/"5"	86"/"44"	8"	72"	; 07"	3802"	502"/"702"	92"/": 2"	≤"; 307"
U; 07E"	5"/"52"	86"/"44"	9"	87"	807"	3707"	502"/"702"	87"/"9: "	≤"; 207"
U; 07F "	@52"	98"/"44"	: "	322"	607"	3707"	502"/"702"	87"/"9: "	≤"; 202"
8; 02E"	CNN"	86"/"44"	9"	87"	/"	3507"	502"/"702"	87"/"9: "	≤"; 207"
D4702E"	CNN"	86"/"44"	9"	87"	/"	3407"	502"/"702"	87"/"9: "	≤"; 207"
"	Design Parameter				"	Design Criteria			
Cmi"O kz."	F wuv'vq'Dkpf gt'Tcvkq"8R2097"TRdg+"				"	208"/"306 <sup>C</sup>			
V{r gu"	Vgpkug'Ut gpi vj "Tcvkq"8VUT+0"				"	: 7' "O kp0E"			

A. Dcugf "qp'42"&gt;{ gct'f guki p'tchHe0'

39DR060T0: "( '39DR060T0 3"

- B. Xqno gwle'Rtqr gt vku'dcugf "qp'ur geko gpu'eqo rcevqf "vq'P f<sub>gu</sub>'cu'o qf kkgf "d{ "vj g'F gr ctvo gpv0'  
 C. F wuv'vq'Dlpf gt "Tcvkq"R<sub>2097</sub>"IR<sub>dg</sub>+"hqt "V{r g'U607C"ku'302"/"400'  
 D. PEF QV/V/4: 5"P q'Hggj g/Vj cy "e{erg'tgs wkt gf -0'  
 E. VUT'hqt "V{r g'U607C"( "D470E"o kzu'ku': 2' "o loko wo 0'

"

**Page 6-19, Table 610-5, BINDER GRADE REQUIREMENTS (BASED ON RBR%)."**

tgr næg'y kj "vj g'hmqy lpi &lt;"

"

Mix Type	%RBR ≤ 20%	21% ≤ %RBR ≤ 30%	%RBR > 30%
U607C."" U; 0D."U; 0E."" K3; 0E."D470E	RI "86/44"	RI "86/44" <sup>C</sup>	RI "7: /4: "
U; 0F."QI HE"	RI "98/44" <sup>D</sup>	pk"	pk"

"

**Page 6-20, Table 610-6, PLACEMENT TEMPERATURES FOR ASPHALT,"tgr næg'y kj "**

vj g'hmqy lpi &lt;"

"

TABLE 610-6 PLACEMENT TEMPERATURES FOR ASPHALT	
Asphalt Concrete Mix Type	Minimum Surface and Air Temperature
D470E"	57°H"
K3; 0E"	57°H"
U607C."U; 0D."U; 0E"	62°H" <sup>A</sup>
U; 0F"	72°H"

- A. Kij g'o kz"eqpvcpu'cp{ "co qwpv'qhiTCU."Vj g'xki kp'dlpf gt "uj cm'dg'RI "7: /4: 0'

**Page 6-23, Table 610-7, DENSITY REQUIREMENTS,"tgr næg'y kj "vj g'hmqy lpi <"**

"

TABLE 610-7 DENSITY REQUIREMENTS	
Mix Type	Minimum % G <sub>mm</sub> (Maximum Specific Gravity)
U607C"	: 70" <sup>C</sup>
U; 0D"	: 20"
U; 0E."U; 0F."K3; 0E."D470E"	: 40"

- A. Ego rcevqf "vq'vj g'cdqxs'ur gekkgf "f gpus{ "y km'dg'tgs wkt gf "y j gp "vj g'U607C"o kz "ku'cr r rkgf "cv'c'tevg'qhi'  
 322'ndulu{"qt"j ki j gt0'

"

**Page 6-32, Article 610-16 MEASUREMENT AND PAYMENT, tgr næg'y kj "vj g'hmqy lpi <"**

"

**Pay Item**

Cur j cn/Eqpetgv"Dcug'Eqwtug."V{r g'D470E"  
 Cur j cn/Eqpetgv"K<sub>3</sub>vgto gf kcv'Eqwtug."V{r g'K3; 0E"  
 Cur j cn/Eqpetgv"Uwthceg'Eqwtug."V{r g'U607C"

**Pay Unit**

Vqp"  
 Vqp"  
 Vqp"

39DR06T0: "( '39DR06T0 3"

Cur j cn/Eqpetgvg'Uwthceg'Eqtug.'V{r g'U; 0D"  
 Cur j cn/Eqpetgvg'Uwthceg'Eqtug.'V{r g'U; 0E "  
 Cur j cn/Eqpetgvg'Uwthceg'Eqtug.'V{r g'U; 0F "

Vqp"  
 Vqp"  
 Vqp"

Page 10-30, Table 1012-1, AGGREGATE CONSENSUS PROPERTIES, 'tgr næg'y kj 'y g"  
 hqmqy kpi <"

Mix Type	Coarse Aggregate Angularity <sup>B</sup>	Fine Aggregate Angularity % Minimum	Sand Equivalent % Minimum	Flat and Elongated 5 : 1 Ratio % Maximum
<i>Test Method</i>	<i>ASTM D5821</i>	<i>AASHTO T 304</i>	<i>AASHTO T 176</i>	<i>ASTM D4791</i>
U607C=U; 0D"	97"1"/"	62"	62"	/"
U; 0E=K; 0E=D470E"	; 7"1"; 2"	67"	67"	32"
U; 0F "	322"1322"	67"	72"	32"
QI HE "	322"1322"	67"	67"	32"
WDY E "	322"1: 7"	67"	67"	32"

A. Tgs vkt go gpw'crr n' 'q'v'j g'f guki p'ci i tgi cvg'drgpf 0'

B. ; 7"1"; 2" f gpqvgu'v'j cv'; 7" 'qh'v'j g'eqctug'ci i tgi cvg'j cu'qpg'htcewtgf 'hceg'cpf"; 2" 'j cu'4"qt'o qtg'htcewtgf " hregu0'

### **MODIFIED CONCRETE FLUME WITH CONCRETE OUTLET:**

" \*5/3; /; 8+Tgx08/39/2: +"

: 47"

UR: 'T32"

Cv'hecvkpu'uj qy p'lp'v'j g'r rpu.'eqputwv'eqpetgvg'hwo gu.'eqpetgvg'ewtd.'cpf "cr tqp"lp'ceeqtfcpeg"  
 y kj "y'j g'f gcknu"lp"v'j g'r rpu0'"Wug"o cvgtknu"o ggkpi "y'j g'tgs vkt go gpw'qh'Ugevkp": 47"qh'v'j g"  
 2018"Standard Specifications"gzegr v'v'j cv'v'j g'eqpetgvg'o wu'dg'Ernu'D'qt"qh'j ki j gt"eqo r tguukxg"  
 utgpi v'j 0'

"

Gcej "eqpetgvg'hwo g."eqpetgvg'ewtd.'cpf "cr tqp"eqo r rgvgf "cpf "ceegr vgf "y kn'dg'r ckl "cv'v'j g'eqptcev"  
 wpl' r tleg" r gt" gcej " hqt" Modified Concrete Flume0" " Uvej " r tleg" cpf " r c{ o gpv' y kn' dg" hwn"  
 eqo r gpucvkp'hqt"cm'o cvgtknu."rdqt."gs vkr o gpv."qqnu."tgo qxkpi "cpf "f kur qulpi "qh'v'j g'vgo r qtct { "  
 unqr g'f tclpu."cpf "cp{ "qv'j gt "lpekl gpvcnu"pgeguuct { "v'eqo r rgvg"v'j g'y qtnlucvukcevtkn' 0'

"

Vj g'eqpetgvg'ewtd"cpf "f kej "qwuukf g"v'j g'r c { "rko ku'qh'v'j g'cr tqp"y kn'dg"o gcwtgf "cpf "r ckl "lp"  
 ceeqtf cpeg'y kj "Ugevkp": 68"cpf ": 72"qh'v'j g"2018"Standard Specifications0'

"

Rc { o gpv'y kn'dg"o cf g'wpf gt<"

"

### **Pay Item**

O qf hkef 'Eqpetgvg'Hwo g"

"

### **Pay Unit**

Gcej "

**GUARDRAIL END UNITS, TYPE - TL-3:**

"\*6/42/26+\*Tgx09/3/39+"

: 84"

UR: 'T87"

**Description**

"  
Hmtpkuj "cpf "lpucmli wctftckl'gpf "wpku"lp"ceeqtf cpeg'y kj "vj g'f gvcku"lp"vj g'r rpu."vj g'cr r rdecdr"  
tgs wkt go gpw'qh'Ugevkp": 84"qh'vj g"2018"Standard Specifications."cpf "cv"uecvkpu"uj qy p"lp"vj g"  
r rpu0"  
"

**Materials**

"  
Hmtpkuj " i wctftckl' gpf " wpku" rkgf " qp" vj g" PEFQV" [Crrtqxf](#) " [Rtqfweu](#) " [Nku](#) " cv"  
[j w u<lcr r u f q 0 n c v g 0 e 0 u l x g p f q t l c r r t q x g f r t q f w e u l](#)"qt "cr r tqxf "gs wct0"  
"

Rtktq"v"lpucmvpq"vj g'Eqptcevqt"uj cmuwo k'v"vj g'Gpi kpggt<"  
"

\*C+" HJ Y C"ceegr cpeg'rgwt'ht'gcej "i wctftckl'gpf "wpk'egt vhl kpi "k'o ggu'vj g'tgs wkt go gpw'qh"  
vj g"CCU VQ"O cpwcn'ht"Cuugukpi "Uchgv"J ctf y ctg."Vgu'Ngxgn'5."lp"ceeqtf cpeg'y kj "  
Ctvlrg"328/4"qh'vj g"2018"Standard Specifications0"  
"

\*D+" Egt vhl g'y qtnkpi "f tcy kpi u"cpf "cuugo drkpi "lpucmvpq"htqo "vj g'o cpwrcwtgt"ht'gcej "  
i wctftckl'gpf "wpk'lp"ceeqtf cpeg'y kj "Ctvlrg"327/4"qh'vj g"2018"Standard Specifications0"  
"

P q"o qf htecvkpu"uj cm'dg"o cf g'v"vj g'i wctftckl'gpf "wpk'y kj qw'vj g'gztgu'y tkvgp"r gto kuukp"  
htqo "vj g'o cpwrcwtgt0"Rgthqto "lpucmvpq"lp"ceeqtf cpeg'y kj "vj g'f gvcku"lp"vj g'r rpu."cpf "f gvcku"  
cpf "cuugo drkpi "lpucmvpq"hmtpkuj gf "d{ "vj g'o cpwrcwtgt0"  
"

**Construction Methods**

"  
I wctftckl'gpf "f gkpgcvkq"ku'tgs wktgf "qp"cm'cr r tqcej "cpf "tckkpi "gpf "ugevkpu"ht'dqv "vgo r qtct { "  
cpf "r gto cpgpv"lpucmvpq"0"i wctftckl'gpf "f gkpgcvkq"eqpuku"qh' { gnuqy "tghgevkxg"uj ggkpi "  
cr r rkgf "vq"vj g"gpvtg" gpf "ugevkp"qh'vj g"i wctftckl'lp"ceeqtf cpeg'y kj "Ctvlrg"32: : /5"qh'vj g"  
2018"Standard Specifications"cpf "ku'lpk'f gpwcn'v"vj g'equ'qh'vj g'i wctftckl'gpf "wpk0"  
"

**Measurement and Payment**

O gcwt go gpv"cpf "r c { o gpv'y km'dg"o cf g"lp"ceeqtf cpeg'y kj "Ctvlrg": 84/8"qh'vj g"2018"Standard  
Specifications0"  
"

Rc { o gpv'y km'dg"o cf g'wpf gt<"  
"

**Pay Item**

"I wctftckl'Gpf "Wpku."V{r g"VN/5"

**Pay Unit**

Gcej "

**GUARDRAIL ANCHOR UNITS AND TEMPORARY GUARDRAIL ANCHOR UNITS:**

" \*3/38/423: + " : 84" UR: "T92"

I wctf tckl'cpej qt "wpku"y kn'dg"kp"ceeqtf cpeg"y kj "vj g"fgvcku"kp"vj g"r rpu"cpf "vj g"cr r rdecdrng"  
tgs vlt go gpw'qh'Ugevkqp": 84"qh'vj g"2018 Standard Specifications0

Tgxkug"vj g"2018 Standard Specifications"cu'hqmqy u<"

**Page 8-42, Article 862-6 MEASUREMENT AND PAYMENT, cff "vj g'hqmqy lpi <"**

Guardrail Anchor Units, Type \_\_\_\_ and Temporary Guardrail Anchor Units Type \_\_\_\_ "y kn'dg"  
o gcuwtgf "cpf "r ckl "cu"wpku"qh'gcej "eqo r rvgf "cpf "ceegr vgf 0"P q"ugr ctvvg"o gcuwtgo gpv'y kn'dg"  
o cf g" qh' cp{ " tckn" vgt o kpcn' ugevkqpu." r quu." qh'ugv" dmqemu." eqpetgv." j ctf y ctg" qt" cp{ " qvj gt "  
eqo r qpgpw'qh'vj g"eqo r rvgf "wpk'vj cv'ctg'y kj kp'vj g'r c{ "rko ku'uj qy p'kp'vj g'r rpu'hqt"vj g'wpk'cu"  
cm'uwej "eqo r qpgpw'y kn'dg'eqpukf gtgf "vq"dg'r ctv'qh'vj g'wpk0"

Rc { o gpv'y kn'dg"o cf g'wpf gt<"

**Pay Item**

I wctf tckl'Cpej qt "Wpku."V{r g'aaaa"

Vgo r qtct{ "I wctf tckl'Cpej qt "Wpku."V{r g'aaa"

"

"

**Pay Unit**

Gcej "

Gcej "

## UVCDKX CVKQP "TGS WKTGO GP VU<"

\*5/33/4238<"

Ucdkx cvkqp "hqt" y ku'r tqlgv"uj cm'eqo r n{ "y kj "y g" vko g" hco g" i vkf gkpgu"cu"ur gekhgf "d{ "y g" PEI /232222"i gpgtcn'eqputwvkv"r gto k'ghgexg"Cwi wuv"5."4233"kuwgf "d{ "y g"P qtvj "Ectqkpc" Fgr ctvo gpv"qh"Gpxkqpo gpv'cpf "P cwtcn" Tguqwtugu" Fkxkqp"qh"Y cvgt "S wcrkv{ 0" Vgo r qtct{ "qt" r gto cpgpv" i tqwpf "eqxgt" ucdkx cvkqp"uj cm' qeewt" y kj kp"9" ecngpf ct" f c{ u" hco "y g" kuv" rpf / f kwtldpi "cevkxk{." y kj "y g" hmqy kpi "gzegr vkpu"lp" y j lej "vgo r qtct{ "qt" r gto cpgpv" i tqwpf "eqxgt" uij cm'dg" r tqxkf gf "kp"36" ecngpf ct" f c{ u" hco "y g" kuv" rpf / f kwtldpi "cevkxk{<"

- Uqr gu'dgy ggp"4<"cpf "5<" y kj "c" uqr g' rpi yj "qh"32" h0qt" rguu
- Uqr gu"5<" qt" hrcwt. "y kj "c" uqr g' qh' rpi yj "qh"72" h0qt" rguu
- Uqr gu"6<" qt" hrcwt

Vj g' ucdkx cvkqp "vko ghtco g' hqt" J ki j "S wcrkv{ "Y cvgt" \*J S Y +\ qpgu" uij cm'dg"9" ecngpf ct" f c{ u" y kj " pq"gzegr vkpu" hqt" uqr g' i tcf gu" qt" rpi yj u0" J ki j "S wcrkv{ "Y cvgt" \ qpgu" \*J S Y +\ qpgu" ctg" f ghkpf " d{ "P qtvj "Ectqkpc" Cfo kpkwcvxg" Eqf g"37C" P ECE "26C0327" \*47+0" Vgo r qtct{ "cpf" r gto cpgpv" i tqwpf "eqxgt" ucdkx cvkqp" uij cm'dg" cej kxgf "kp" ceeqtf cpeg" y kj "y g" r tqxkqp"lp" y ku' eqpvtcev" cpf "cu" f kgevgf 0

## UGGFPI "CPF 'O WNEJ PI <"

\*Gcu+ "

Vj g" nkp f u" qh" uggf "cpf" "hgtvkrk gt." cpf "y g" tcvgu" qh" cr r rlec vkv" qh" uggf. "hgtvkrk gt." cpf "nko guvpg." uij cm'dg" cu" ucvgf "dgmj 0" F wtkpi "r gtlkf u" qh" qxgtmr r kpi "f cvgu. "y g" nkp f "qh" uggf "vq" dg" wugf " uij cm' dg" f gvgto kpgf 0" Cm' tcvgu" ctg" kp" r qwpf u' r gt" cetg0

Cm' Tqcf y c{ "Ctgu"

### **O ctej '3'/'Cwi wuv'53"**

72% Vcm' Hguewg"  
32% Egpvr gf g"  
47% Dgto wf ci tcuu" \*j wngf +"  
722% Hgtvkrk gt"  
6222% Nko guvpg"

### **Ugr vgo dgt '3'/'Hgdwtct{ '4: "**

72% Vcm' Hguewg"  
32% Egpvr gf g"  
57% Dgto wf ci tcuu" \*wpj wngf +"  
722% Hgtvkrk gt"  
6222% Nko guvpg"

Y cug" cpf "Dqttqy "Nqecvkvu"

### **O ctej '3'/'Cwi wuv'53"**

97% Vcm' Hguewg"  
47% Dgto wf ci tcuu" \*j wngf +"  
722% Hgtvkrk gt"  
6222% Nko guvpg"

### **Ugr vgo dgt '3'/'Hgdwtct{ '4: "**

97% Vcm' Hguewg"  
57% Dgto wf ci tcuu" \*wpj wngf +"  
722% Hgtvkrk gt"  
6222% Nko guvpg"

P qvg<72% qh" Dcj kci tcuu" o c{ "dg" uwdukwvgf "hqt" gkj gt" Egpvr gf g" qt" Dgto wf ci tcuu" qpn{ "vr qp" Gpi kpggtu' tgs wgu0

Crr tqxgf "Vcm' Hguewg" Ewnkxctu"

		"	
28°F wuv	Guecnf g"	Lwvleg"	Ugtgpi gvk"
4 <sup>pf</sup> "O kngppkwo "	Guugpvkcn'	Mercj ctk'	Uj grn{ "
5 <sup>tf</sup> "O kngppkwo ""	Gxgti tggp"4"	Mkw{ "J cy m'4222"	Uj gtlf cp"
Crcej g'KK'	Hcreqp"KK"	Ngiklo cvg"	Ukplc"
Cxgpi gt"	Hcreqp"P I "	Ngzłpi vqp"	Ukxgt"J cy m'
Dctngzcu"	Hcreqp"X"	NUF "	Ukxgtuvt"
Dctngzcu'KK'	Hckj "	Oci gncp"	Uj gpcpf qcj "Grkvg"
Dct'Hc"	Hcv'Ecv"	Ocvf qt"	Ukf gy kpf gt"
Dcttgc"	Hguvqxc"	O kngppkwo "UTR"	Um{ rkp g"
Dctłpi vqp"	Hkf grkv{ "	O qpgv"	Uqrctc"
Dcttqdwnq"	Hłpgrcy p'Grkvg"	O wncpi "6"	Uqwj gtp'Ej qleg'KK'
Dctxcfq"	Hłpgrcy p'Zr tguu"	Płplc"4"	Ur ggf y c{ "
Dkno qtg"	Hłpguug'KK'	Qnø'I nqt{ "	Ur {f gt'NU"
Dłpi q"	Hłgdktf "	Qn{o r le'I qrf "	Uwpugv'I qrf "
Dł go "	Hłgetcengt'NU"	Rcf tg"	Vceeqc"
Drceny cvej "	Hłgp  c"	Rcvci qplc"	Vcp  cplc"
Drcf g'Twppgt'KK'	Hłxg'Rqlpv"	Rgf ki tgg"	Vtkq"
Dqpuck'	Hqewu"	Rłecuuq"	Vcj qg'KK'
Dtcxgj gctv'	Hqtvg"	Rłgf o qp v"	Vcmcf gi c"
Dtcxq"	I cttkuqp"	Rłcpvcłqp"	Vctj ggn"
Dwnug{ g"	I c  gng'KK'	Rtquggf u'7523"	Vgttcpq"
Ecpxextq"	I qrf "O gf cnkqp"	Rtqur gev"	Vkcp'nf "
Ecxcn{ uv'	I tcpf g"5"	Rwtg'I qrf "	Vkcpkwo "NU"
Ec{ gppg"	I tggpdtqqmı"	S wguv"	Vtcegt"
Eguucpg"TI "	I tggpmggr gt"	Tcr vqt'KK'	Vtcxgtug"UTR"
Ej k r gt"	I tgo rkp"	Tgdgn'Gz gf c"	Vwnc"Vlo g"
Eqej kug'KK"	I tg{ uvpgg"	Tgdgn'Ugpv{ "	Vvtdq"
Eqpukwłkqp"	I wctf kcp"43"	Tgdgn'KK"	Vvtdq"TI "
Eqti k'	I wctf kcp"63"	Tgi lo gpv'KK'	Vwzgf q"TI "
Eqtqpc"	J go k'	Tgi gpgtcvg"	Wnko cvg"
Eq{qv g"	J qpmł "Vqpmı"	Tgpf kłkqp"	Xgpwtg"
Fctłpi vqp"	J qvTqf "	Tj co dngt"4"UTR"	Wo dtgmc"
Fcxłpek'	J wpvgt"	Tgo dtcpf v"	Xcp'I qij "
Fgukt g"	Kłhgtpq"	Tgwłkqp"	Y cvej fqi "
Fqo kłkqp"	Kłpqxcvqt"	Tkxgtukf g"	Y qłr cenıKK'
F{pco le"	Kłvgi tkł{ "	TP R"	Z tgo gi tggp"
F{pcu{ "	Lci wct"5"	Tqengv"	"
Gpf gcxqt"	Lco dqtgg"	Ueqtr kqp"	"

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Qp"ew"cpf "hmi'unqr gu"4-3"qt"uvgr gt"Egpvkr gf g"uj cni'dg"cr r rłgf "cv'y g'tcvg"qh"7"r qwpf u'r gt"cetg"  
 cpf "cf f"42%qh"Ugtkegc"Ngur gf gl c"htqo "Lcpwct{ "3"/"F gego dgt"530"

"



Hgtvkrk gt"uj cm'dg"32/42/42"cpn{uku0"C"f khtgtpv'cpn{uku"qh'hgtvkrk gt"o c{"dg"wgf "r tqxf gf "vj g" 3/4/4"tcvk"ku"o clpvclpgf "cpf "vj g'tcvg"qh'cr r rdecvkp"cf lwvgf "vq"r tqxf g"vj g'uco g'co qwpv'qh'r npv" hqf "cu"32/42/42"cpn{uku"cpf "cu"ft gevgf 0'

#### VGO RQTCTI 'UGGF RPI <'

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Hgtvkrk gt"uj cm'dg"vj g'uco g'cpn{uku"cu"ur gekhgf "hqt"Seeding and Mulching"cpf "cr r rkgf "cv"vj g'tcvg" qh'622"r qwpf u"cpf "uggf gf "cv"vj g'tcvg"qh'72"r qwpf u"r gt "cetg0"Uy ggUwf cp"t tcu."I gto cp"O kngv" qt"Dtqy pqr "O kngv"uj cm'dg"wgf "kp"uwo o gt"o qpj u"cpf "T {g"t tclp"fwlpi "vj g'tgo clpf gt"qh"vj g" {gct0"Vj g"Gpi kpggt"y knlf gvgto kpg"vj g"gzcev'f cvgu"ht"wlpi "gcej "nkp"qh'uggf 0"

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#### HGT VKNK GT 'VQRF TGU RPI <'

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Hgtvkrk gt"wgf "hqt"vqr f tguakpi "qp"cm'tqcf y c{"ctgcu"gzegr v'unqr gu"4<3"cpf "uvgr gt"uj cm'dg"32/42/ 42"i tcf g"cpf "uj cm'dg"cr r rkgf "cv"vj g'tcvg"qh'722"r qwpf u"r gt "cetg0"C"f khtgtpv'cpn{uku"qh'hgtvkrk gt" o c{"dg"wgf "r tqxf gf "vj g'3/4/4"tcvk"ku"o clpvclpgf "cpf "vj g'tcvg"qh'cr r rdecvkp"cf lwvgf "vq"r tqxf g" vj g'uco g'co qwpv'qh'r npv"hqf "cu"32/42/42"cpn{uku"cpf "cu"ft gevgf 0'

"

Hgtvkrk gt"wgf "hqt"vqr f tguakpi "qp"unqr gu"4<3"cpf "uvgr gt"cpf "y cvg"cpf "dqttqy "ctgcu"uj cm'dg"38/ :/: "i tcf g"cpf "uj cm'dg"cr r rkgf "cv"vj g'tcvg"qh'722"r qwpf u"r gt "cetg0"C"f khtgtpv'cpn{uku"qh' hgtvkrk gt"o c{"dg"wgf "r tqxf gf "vj g'4/3/3"tcvk"ku"o clpvclpgf "cpf "vj g'tcvg"qh'cr r rdecvkp"cf lwvgf " vq"r tqxf g"vj g'uco g'co qwpv'qh'r npv"hqf "cu"38/:/: "cpn{uku"cpf "cu"ft gevgf 0'

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#### UWRRNGO GP VCN'UGGF RPI <'

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Vj g'nkp u"qh'uggf "cpf "r tqrt vkpu"uj cm'dg"vj g'uco g'cu"ur gekhgf "hqt"Seeding and Mulching."y kj " vj g"gzegr vkp"vj cv'pq"egpv"gf g'uggf "y km'dg"wgf "kp"vj g'uggf "o kz"ht"uwr r ngo gpvcn'uggf kpi 0"Vj g" tcvg"qh'cr r rdecvkp"ht"uwr r ngo gpvcn'uggf kpi "o c{"xct {"htqo "47%vq"97%r gt "cetg0"Vj g"cewcn'tcvg" r gt "cetg"y km'dg"f gvgto kpgf "r tkqt"vq"vj g'vko g'qh'vqr f tguakpi "cpf "vj g'Eqpvtcevqt"y km'dg"pqvkhgf "kp" y tkkpi "qh"vj g'tcvg"r gt "cetg."vqcn's wcpvkv "pggf gf."cpf "ctgcu"qp"y j lej "vq"cr r n"vj g'uwr r ngo gpvcn' uggf 0"O kpo wo "vkr"i g"gs vkr o gpv."eqpukpi "qh"cu"uqf "uggf gt"uj cm'dg"wgf "hqt"lpeqr qtcvki " uggf "kp"vq"vj g'uqkn"cu"vq"r t gxp v'f kuwtdcpeg"qh'gz kuki "xgi gvcvkp0"C"enqf dwvgt "dcm'cpf "ej clp+" o c{"dg"wgf "y j gtg"fi tgg"qh'unqr g'r t gxp v"vj g'wgf"qh"cu"uqf "uggf gt0'

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#### O QY RPI <'

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Vj g'o kpo wo "o qy kpi "j gli j vqp"vj ku'r tqlgv"uj cm'dg"6'lpej gu0'

"

## **STABILIZATION REQUIREMENTS:**

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective August 3, 2011 issued by the North Carolina Department of Environment and Natural Resources Division of Water Quality. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

## **NATIVE GRASS SEEDING AND MULCHING:**

**(East)**

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

### **March 1 - August 31**

18#	Creeping Red Fescue
6#	Indiangrass
8#	Little Bluestem
4#	Switchgrass
25#	Browntop Millet
500#	Fertilizer
4000#	Limestone

### **September 1 - February 28**

18#	Creeping Red Fescue
6#	Indiangrass
8#	Little Bluestem
4#	Switchgrass
35#	Rye Grain
500#	Fertilizer
4000#	Limestone

Approved Creeping Red Fescue Cultivars:

Aberdeen

Boreal

Epic

Cindy Lou

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching shall be performed in accordance with Section 1660 of the *Standard Specifications* and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

### **Temporary Seeding**

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

### **Fertilizer Topdressing**

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

### **Supplemental Seeding**

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, and the rate of application may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

### **Mowing**

The minimum mowing height shall be 4 inches.

### **Measurement and Payment**

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

All areas seeded and mulched shall be tacked with asphalt. Crimping of straw in lieu of asphalt tack shall not be allowed on this project.

**CRIMPING STRAW MULCH:**

Crimping shall be required on this project adjacent to any section of roadway where traffic is to be maintained or allowed during construction. In areas within six feet of the edge of pavement, straw is to be applied and then crimped. After the crimping operation is complete, an additional application of straw shall be applied and immediately tacked with a sufficient amount of undiluted emulsified asphalt.

Straw mulch shall be of sufficient length and quality to withstand the crimping operation.

Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crimper blades shall not exceed 8".

**LAWN TYPE APPEARANCE:**

All areas adjacent to lawns must be hand finished as directed to give a lawn type appearance. Remove all trash, debris, and stones  $\frac{3}{4}$ " and larger in diameter or other obstructions that could interfere with providing a smooth lawn type appearance. These areas shall be reseeded to match their original vegetative conditions, unless directed otherwise by the Field Operations Engineer.

## **REFORESTATION:**

### **Description**

*Reforestation* will be planted within interchanges and along the outside borders of the road, and in other areas as directed. *Reforestation* is not shown on the plan sheets. See the Reforestation Detail Sheet.

All non-maintained riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species.

The entire *Reforestation* operation shall comply with the requirements of Section 1670 of the *Standard Specifications*.

### **Materials**

*Reforestation* shall be bare root seedlings 12"-18" tall.

### **Construction Methods**

*Reforestation* shall be planted as soon as practical following permanent *Seeding and Mulching*. The seedlings shall be planted in a 16-foot wide swath adjacent to mowing pattern line, or as directed.

Root dip: The roots of reforestation seedlings shall be coated with a slurry of water, and either a fine clay (kaolin) or a superabsorbent that is designated as a bare root dip. The type, mixture ratio, method of application, and the time of application shall be submitted to the Engineer for approval.

With the approval of the Engineer, seedlings may be coated before delivery to the job or at the time of planting, but at no time shall the roots of the seedlings be allowed to dry out. The roots shall be moistened immediately prior to planting.

Seasonal Limitations: *Reforestation* shall be planted from November 15 through March 15.

### **Measurement and Payment**

*Reforestation* will be measured and paid for in accordance with Article 1670-17 of the *Standard Specifications*.

## **RESPONSE FOR EROSION CONTROL:**

### **Description**

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the following work as shown herein, by an approved subcontractor.

<b>Section</b>	<b>Erosion Control Item</b>	<b>Unit</b>
1605	Temporary Silt Fence	LF
SP	Special Sediment Control Fence	LF/TON
1615	Temporary Mulching	ACR
1620	Seed - Temporary Seeding	LB
1620	Fertilizer - Temporary Seeding	TN
1631	Matting for Erosion Control	SY
SP	Coir Fiber Mat	SY
SP	Coir Fiber Baffles	LF
SP	Permanent Soil Reinforcement Mat	SY
1660	Seeding and Mulching	ACR
1661	Seed - Repair Seeding	LB
1661	Fertilizer - Repair Seeding	TON
1662	Seed - Supplemental Seeding	LB
1665	Fertilizer Topdressing	TON
SP	Safety/Highly Visible Fencing	LF
SP	Response for Erosion Control	EA

### **Construction Methods**

Provide an approved subcontractor who performs an erosion control action as described in Form 1675. Each erosion control action may include one or more of the above work items.

### **Measurement and Payment**

*Response for Erosion Control* will be measured and paid for by counting the actual number of times the subcontractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The

provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Response for Erosion Control	Each



## **ENVIRONMENTALLY SENSITIVE AREAS:**

### **Description**

This project is located in an *Environmentally Sensitive Area*. This designation requires special procedures to be used for clearing and grubbing, temporary stream crossings, and grading operations within the Environmentally Sensitive Areas identified on the plans and as designated by the Engineer. This also requires special procedures to be used for seeding and mulching and staged seeding within the project.

The Environmentally Sensitive Area shall be defined as a 50-foot buffer zone on both sides of the stream or depression measured from top of streambank or center of depression.

### **Construction Methods**

#### **(A) Clearing and Grubbing**

In areas identified as Environmentally Sensitive Areas, the Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations as described in Article 200-1 of the *Standard Specifications*. Only clearing operations (not grubbing) shall be allowed in this buffer zone until immediately prior to beginning grading operations. Erosion control devices shall be installed immediately following the clearing operation.

#### **(B) Grading**

Once grading operations begin in identified Environmentally Sensitive Areas, work shall progress in a continuous manner until complete. All construction within these areas shall progress in a continuous manner such that each phase is complete and areas are permanently stabilized prior to beginning of next phase. Failure on the part of the Contractor to complete any phase of construction in a continuous manner in Environmentally Sensitive Areas will be just cause for the Engineer to direct the suspension of work in accordance with Article 108-7 of the *Standard Specifications*.

#### **(C) Temporary Stream Crossings**

Any crossing of streams within the limits of this project shall be accomplished in accordance with the requirements of Subarticle 107-12 of the *Standard Specifications*.

#### **(D) Seeding and Mulching**

Seeding and mulching shall be performed in accordance with Section 1660 of the *Standard Specifications* and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

Seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment. No appreciable time shall lapse into the contract time without stabilization of slopes, ditches and other areas within the Environmentally Sensitive Areas.

(E) Stage Seeding

The work covered by this section shall consist of the establishment of a vegetative cover on cut and fill slopes as grading progresses. Seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet in height measured along the slope, or greater than 2 acres in area. Each stage shall not exceed the limits stated above.

Additional payments will not be made for the requirements of this section, as the cost for this work shall be included in the contract unit prices for the work involved.

**MINIMIZE REMOVAL OF VEGETATION:**

The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Vegetation along stream banks and adjacent to other jurisdictional resources outside the construction limits shall only be removed upon approval of Engineer. No additional payment will be made for this minimization work.

**STOCKPILE AREAS:**

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed.

**ACCESS AND HAUL ROADS:**

At the end of each working day, the Contractor shall install or re-establish temporary diversions or earth berms across access/haul roads to direct runoff into sediment devices. Silt fence sections that are temporarily removed shall be reinstalled across access/haul roads at the end of each working day.

## **WASTE AND BORROW SOURCES:**

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

[http://www.ncdot.gov/doh/operations/dp\\_chief\\_eng/roadside/fieldops/downloads/Files/ContractorReclamationProcedures.pdf](http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/ContractorReclamationProcedures.pdf)

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

## **SAFETY FENCE AND JURISDICTIONAL FLAGGING:**

### **Description**

*Safety Fence* shall consist of furnishing materials, installing and maintaining polyethylene or polypropylene fence along the outside riparian buffer, wetland, or water boundary, or other boundaries located within the construction corridor to mark the areas that have been approved to infringe within the buffer, wetland, endangered vegetation, culturally sensitive areas or water. The fence shall be installed prior to any land disturbing activities.

Interior boundaries for jurisdictional areas noted above shall be delineated by stakes and highly visible flagging.

Jurisdictional boundaries at staging areas, waste sites, or borrow pits, whether considered outside or interior boundaries shall be delineated by stakes and highly visible flagging.

### **Materials**

#### **(A) Safety Fencing**

Polyethylene or polypropylene fence shall be a highly visible preconstructed safety fence approved by the Engineer. The fence material shall have an ultraviolet coating.

Either wood posts or steel posts may be used. Wood posts shall be hardwood with a wedge or pencil tip at one end, and shall be at least 5 ft. in length with a minimum nominal 2" x 2" cross section. Steel posts shall be at least 5 ft. in length, and have a minimum weight of 0.85 lb/ft of length.

#### **(B) Boundary Flagging**

Wooden stakes shall be 4 feet in length with a minimum nominal 3/4" x 1-3/4" cross section. The flagging shall be at least 1" in width. The flagging material shall be vinyl and shall be orange in color and highly visible.

### **Construction Methods**

No additional clearing and grubbing is anticipated for the installation of this fence. The fence shall be erected to conform to the general contour of the ground.

#### **(A) Safety Fencing**

Posts shall be set at a maximum spacing of 10 ft., maintained in a vertical position and hand set or set with a post driver. Posts shall be installed a minimum of 2 ft. into the ground. If hand set, all backfill material shall be thoroughly tamped. Wood posts may be sharpened to a dull point if power driven. Posts damaged by power driving shall be removed and replaced prior to final

acceptance. The tops of all wood posts shall be cut at a 30-degree angle. The wood posts may, at the option of the Contractor, be cut at this angle either before or after the posts are erected.

The fence geotextile shall be attached to the wood posts with one 2" galvanized wire staple across each cable or to the steel posts with wire or other acceptable means.

Place construction stakes to establish the location of the safety fence in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for the staking of the safety fence. All stakeouts for safety fence shall be considered incidental to the work being paid for as "Construction Surveying", except that where there is no pay item for construction surveying, all safety fence stakeout will be performed by state forces.

The Contractor shall be required to maintain the safety fence in a satisfactory condition for the duration of the project as determined by the Engineer.

#### (B) Boundary Flagging

Boundary flagging delineation of interior boundaries shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Interior boundaries may be staked on a tangent that runs parallel to buffer but must not encroach on the buffer at any location. Interior boundaries of hand clearing shall be identified with a different colored flagging to distinguish it from mechanized clearing.

Boundary flagging delineation of interior boundaries will be placed in accordance with Article 105-9 or Article 801-1 of the *Standard Specifications*. No direct pay will be made for delineation of the interior boundaries. This delineation will be considered incidental to the work being paid for as *Construction Surveying*, except that where there is no pay item or construction surveying the cost of boundary flagging delineation shall be included in the unit prices bid for the various items in the contract. Installation for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall consist of wooden stakes on 25 feet maximum intervals with highly visible orange flagging attached. Stakes shall be installed a minimum of 6" into the ground. Additional flagging may be placed on overhanging vegetation to enhance visibility but does not substitute for installation of stakes.

Installation of boundary flagging for delineation of all jurisdictional boundaries at staging areas, waste sites, or borrow pits shall be performed in accordance with Subarticle 230-4(B)(5) or Subarticle 802-2(F) of the *Standard Specifications*. No direct pay will be made for this delineation, as the cost of same shall be included in the unit prices bid for the various items in the contract.

The Contractor shall be required to maintain alternative stakes and highly visible flagging in a satisfactory condition for the duration of the project as determined by the Engineer.

#### **Measurement and Payment**

*Safety Fence* will be measured and paid as the actual number of linear feet of polyethylene or polypropylene fence installed in place and accepted. Such payment will be full compensation including but not limited to furnishing and installing fence geotextile with necessary posts and post bracing, staples, tie wires, tools, equipment and incidentals necessary to complete this work.

Payment will be made under:

**Pay Item**

Safety Fence

**Pay Unit**

Linear Foot



## **WATTLE BARRIER:**

(5-20-13)

1630

### **Description**

Wattle barriers are tubular products consisting of excelsior fibers encased in natural or synthetic netting and used at the toe of fills or on slopes to intercept runoff. Wattle barriers are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation, maintenance and removing wattle barriers.

### **Materials**

Wattle shall meet the following specifications:

Inner Material	100% Curled Wood (Excelsior) Fibers
Minimum Diameter	18"
Minimum Length	10 ft.
Minimum Density	2.9 lb./c.f. ± 10%
Net Material	Synthetic
Net Openings	1" x 1"
Net Configuration	Totally Encased
Minimum Weight	5 lb./ft. ± 10%

Stakes shall be used as anchors. Provide hardwood stakes a minimum of 2-ft long with a 2" x 2" nominal square cross section. One end of the stake shall be sharpened or beveled to facilitate driving down into the underlying soil.

Provide staples made of 0.125" diameter new steel wire formed into a U-shape not less than 12" in length with a throat of 1" in width.

### **Construction Methods**

Align wattle barriers in an overlapping and alternating pattern. Excavate a trench the entire length of each wattle with a depth of 2" to 3" for the wattle to be placed. Secure wattle barriers to the soil by wire staples approximately every linear foot and at the end of each wattle. Install at least 4 stakes on the downslope side of the wattle with a maximum spacing of 2 linear feet, and according to the detail. Install at least 2 stakes on the upslope side of the wattle barrier according to the detail provided in the plans. Drive stakes into the ground at least 10" with no more than 2" projecting from the top of the wattle. Drive stakes at an angle according to the detail provided in the plans.

For wattle barriers used to reduce runoff velocity for large slopes, use a maximum spacing of 25 ft. for the barrier measured along the slope.

Maintain the wattle barriers until the project is accepted or until the wattle barriers are removed, and remove and dispose of silt accumulations at the wattle barriers when so directed in accordance with Section 1630 of the *2012 Standard Specifications*.

### **Measurement and Payment**

*Wattle Barrier* will be measured and paid as the actual number of linear feet of wattles installed and accepted. Such price and payment will be full compensation for all work covered by this provision, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to install the wattle barrier.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Wattle Barrier	Linear Foot

## **TEMPORARY ROCK SILT CHECK TYPE A WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM):**

### **Description**

Temporary Rock Silt Checks Type A with Excelsior Matting and Polyacrylamide (PAM) are devices utilized in temporary and permanent ditches to reduce runoff velocity and incorporate PAM into the construction runoff to increase settling of sediment particles and reduce turbidity of runoff. Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are to be placed at locations shown on the plans or as directed. Installation shall follow the detail provided in the plans and as directed. Work includes furnishing materials, installation of Temporary Rock Silt Checks Type A, matting installation, PAM application, and removing Temporary Rock Silt Checks Type A with Excelsior Matting and PAM.

### **Materials**

Structural stone shall be class B stone that meets the requirements of Section 1042 of the *Standard Specifications* for Stone for Erosion Control, Class B.

Sediment control stone shall be #5 or #57 stone, which meets the requirements of Section 1005 of the *Standard Specifications* for these stone sizes.

Matting shall meet the requirements of Excelsior Matting in Subarticle 1060-8(B) of the *Standard Specifications*, or shall meet specifications provided elsewhere in this contract.

Polyacrylamide (PAM) shall be applied in powder form and shall be anionic or neutrally charged. Soil samples shall be obtained in areas where the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM will be placed, and from offsite material used to construct the roadway, and analyzed for the appropriate PAM flocculant to be utilized with each Temporary Rock Silt Check Type A. The PAM product used shall be listed on the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Water Quality (DWQ) web site as an approved PAM product for use in North Carolina.

### **Construction Methods**

Temporary Rock Silt Checks Type A shall be installed in accordance with Subarticle 1633-3(A) of the *Standard Specifications*, Roadway Standard Drawing No. 1633.01 and the detail provided in the plans.

Installation of matting shall be in accordance with the detail provided in the plans, and anchored by placing Class B stone on top of the matting at the upper and lower ends.

Apply PAM at a rate of 4 ounces over the center portion of the Temporary Rock Silt Checks Type A and matting where the water is going to flow over. PAM applications shall be done during construction activities and after every rainfall event that is equal to or exceeds 0.50 in.

The Contractor shall maintain the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM until the project is accepted or until the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM are removed, and shall remove and dispose of silt accumulations at the Temporary Rock Silt Checks Type A with Excelsior Matting and PAM when so directed in accordance with the requirements of Section 1630 of the *Standard Specifications*.

### **Measurement and Payment**

*Temporary Rock Silt Checks Type A* will be measured and paid for in accordance with Article 1633-5 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

Matting will be measured and paid for in accordance with Article 1631-4 of the *Standard Specifications*, or in accordance with specifications provided elsewhere in this contract.

*Polyacrylamide(PAM)* will be measured and paid for by the actual weight in pounds of PAM applied to the Temporary Rock Silt Checks Type A. Such price and payment will be full compensation for all work covered by this section, including, but not limited to, furnishing all materials, labor, equipment and incidentals necessary to apply the *Polyacrylamide(PAM)*.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Polyacrylamide(PAM)	Pound

## **COIR FIBER MAT:**

### **Description**

Furnish material, install and maintain coir fiber mat in locations shown on the plans or in locations as directed. Work includes providing all materials, excavating and backfilling, and placing and securing coir fiber mat with stakes, steel reinforcement bars or staples as directed.

### **Materials**

<b>Item</b>	<b>Section</b>
Coir Fiber Mat	1060-14

Anchors: Stakes, reinforcement bars, or staples shall be used as anchors.

#### **Wooden Stakes:**

Provide hardwood stakes 12"- 24" long with a 2" x 2" nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2" long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

#### **Steel Reinforcement Bars:**

Provide uncoated #10 steel reinforcement bars 24" nominal length. The bars shall have a 4" diameter bend at one end with a 4" straight section at the tip to catch and secure the coir fiber mat.

#### **Staples:**

Provide staples made of 0.125" diameter new steel wire formed into a *u* shape not less than 12" in length with a throat of 1" in width.

### **Construction Methods**

Place the coir fiber mat immediately upon final grading. Provide a smooth soil surface free from stones, clods, or debris that will prevent the contact of the mat with the soil. Unroll the mat and apply without stretching such that it will lie smoothly but loosely on the soil surface.

For stream relocation applications, take care to preserve the required line, grade, and cross section of the area covered. Bury the top slope end of each piece of mat in a narrow trench at least 6 in. deep and tamp firmly. Where one roll of matting ends and a second roll begins, overlap the end of the upper roll over the buried end of the second roll so there is a 6 in. overlap. Construct check trenches at least 12 in. deep every 50 ft. longitudinally along the edges of the mat or as directed. Fold over and bury mat to the full depth of the trench, close and tamp firmly. Overlap mat at least 6 in. where 2 or more widths of mat are installed side by side.

Place anchors across the mat at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the mat 3 ft. apart.

Adjustments in the trenching or anchoring requirements to fit individual site conditions may be required.

### **Measurement and Payment**

*Coir Fiber Mat* will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

No measurement will be made for anchor items.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Coir Fiber Mat	Square Yard

## **FLOATING TURBIDITY CURTAIN:**

### **Description**

This work consists of furnishing a *Floating Turbidity Curtain* to deter silt suspension and movement of silt particles during construction. The floating turbidity curtain shall be constructed at locations as directed.

### **Materials**

The curtain material shall be made of a tightly woven nylon, plastic or other non-deteriorating material meeting the following specifications:

<b>Property</b>	<b>Value</b>
Grab tensile strength	*md-370 lbs *cd-250 lbs
Mullen burst strength	480 psi
Trapezoid tear strength	*md-100 lbs *cd-60 lbs
Apparent opening size	70 US standard sieve
Percent open area	4% permittivity 0.28 sec-1

\*md - machine direction

\*cd - cross machine direction

In the event that more than one width of fabric is required, a 6" overlap of the material shall also be required.

The curtain material shall be supported by a flotation material having over 29 lbs/ft buoyancy. The floating curtain shall have a 5/16" galvanized chain as ballast and dual 5/16" galvanized wire ropes with a heavy vinyl coating as load lines.

### **Construction Methods**

The Contractor shall maintain the *Floating Turbidity Curtain* in a satisfactory condition until its removal is requested by the Engineer. The curtain shall extend to the bottom of the jurisdictional resource. Anchor the curtain according to manufacturer recommendations.

### **Measurement and Payment**

*Floating Turbidity Curtain* will be measured and paid for as the actual number of square yards of curtain furnished as specified and accepted. Such price and payment will be full compensation for the work as described in this section including but not limited to furnishing all materials, tools, equipment, and all incidentals necessary to complete the work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Floating Turbidity Curtain	Square Yard



## **CONCRETE WASHOUT STRUCTURE:**

(12-01-15)

### **Description**

Concrete washout structures are enclosures above or below grade to contain concrete waste water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with wash out operations.

The concrete washout structure may include constructed devices above or below ground and or commercially available devices designed specifically to capture concrete waste water.

### **Materials**

<b>Item</b>	<b>Section</b>
Temporary Silt Fence	1605

*Safety Fence* shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall meet the following minimum physical properties for low permeability; it shall consist of a polypropylene or polyethylene 10 mil thick geomembrane. If the minimum setback dimensions can be achieved the liner is not required. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

### **Construction Methods**

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed.

Install temporary silt fence around the perimeter of the enclosure in accordance with the details and as directed if structure is not located in an area where existing erosion and sedimentation control devices are capable to containing any loss of sediment.

Post a sign with the words "Concrete Washout" in close proximity of the concrete washout area, so it is clearly visible to site personnel.

The construction details for the above grade and below grade concrete washout structures can be found on the following web page link:

[http://www.ncdot.gov/doh/operations/dp\\_chief\\_eng/roadside/soil\\_water/details/](http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/soil_water/details/)

Alternate details for accommodating concrete washout may be submitted for review and approval.

The alternate details shall include the method used to retain and dispose of the concrete waste water within the project limits and in accordance with the minimum setback requirements. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

### **Maintenance and Removal**

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity.

Inspect concrete washout structures for damage and maintain for effectiveness.

Remove the concrete washout structures and sign upon project completion. Grade the earth material to match the existing contours and permanently seed and mulch area.

### **Measurement and Payment**

*Concrete Washout Structure* will be paid for per each enclosure installed in accordance with the details. If alternate details are approved then those details will also be paid for per each approved and installed device.

*Temporary Silt Fence* will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Concrete Washout Structure	Each

# **TECHNICAL WATER SPECIFICATIONS**

FOR THE

**NCDOT Project # 17BP.4.R.78**

**Bridge # 320067**

**Waterline Relocation along SR 1109 South Fountain Road  
Over Otter Creek**

LOCATED IN

**EDGECOMBE COUNTY, NC**

January 2, 2018

Prepared by:



**PREPARED BY**

Wetherill Engineering, Inc.  
1223 Jones Franklin Road  
Raleigh, NC 27606  
Phone 919 851 8077  
Fax 919 851 8107

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## **Disclosure Statement:**

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Wetherill Engineering, Inc. shall be without liability to Wetherill Engineering, Inc.

## **EDGECOMBE COUNTY**

### **WATER DISTRIBUTION SYSTEM**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Work under this section includes, but is not limited to, piping, valves, fire hydrants, water service line, and appurtenances for a complete potable water distribution system.

##### **1.02 RELATED SECTIONS**

- B. The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
  - 1. Section 02315 Trenching for Utilities
  - 2. Section 02445 Bore and Jack of Conduits

##### **1.03 REFERENCES**

- A. Publications are referred to in the text by basic designation only.
  - 1. American Society of Sanitary Engineering (ASSE) Standards
    - a. 1013 Reduced Pressure Principle Backflow Preventers
    - b. 1015 Double Check Backflow Prevention Assembly
    - c. 1069 Outdoor Enclosures for Backflow Prevention Assemblies
  - 2. American Society for Testing and Materials (ASTM)
    - a. C443 Flexible Watertight Joints for Precast Manhole Sections
    - b. C478 Precast Reinforced Concrete Manhole Sections 88a
    - c. C828 Low-Pressure Air Test of Vitrified Clay Pipe Lines (4 to 12 inch)
    - d. C890 Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
    - e. C923 Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
    - f. D1784 Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
    - g. D1785 Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
    - h. D2241 Poly(Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series)
    - i. D2466 Socket-Type Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
    - j. D2467 Socket-Type Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule

- k. D3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
  - l. D3350 Polyethylene Plastics Pipe and Fittings Materials.
  - m. F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
  - n. F1483 Specification for Oriented Poly(Vinyl Chloride) PVCO, Pressure Pipe
3. American Water Works Association (AWWA)
- a. B300 Hypochlorites
  - b. B301 Liquid Chlorine
  - c. C104 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
  - d. C105 Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids
  - e. C110 Ductile-Iron and Gray-Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids
  - f. C115 Flanged Ductile-Iron Pipe with Ductile Iron or Gray Iron Threaded Flanges
  - g. C150 Thickness Design of Ductile Iron Pipe
  - h. C151 Ductile-Iron Pipe, Centrifugally Cast, for Water
  - i. C153 Ductile-Iron Compact Fittings, 3 inch through 24 inch and 54 inch through 64 inch, for Water Service
  - j. C502 Dry-Barrel Fire Hydrants
  - k. C504 Rubber-Seated Butterfly Valves
  - l. C508 Swing-Check Valves for Waterworks Service, 2 inch Through 24 inch NPS
  - m. C509 Resilient Seated Gate Valves for Water and Sewerage Systems.
  - n. C510 Double Check Valve Backflow-Prevention Assembly
  - o. C511 Reduced-Pressure Principle Backflow-Prevention Assembly
  - p. C512 Air-Release, Air / Vacuum, and Combination Air Valves for Waterworks Service
  - q. C550 Protective Epoxy Interior Coatings for Valves and Hydrants
  - r. C600 Standard for Installation of Ductile Iron Water Mains and Their Appurtenances
  - s. C605 Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
  - t. C651 Disinfecting Water Mains
  - u. C700 Cold-Water Meters-Displacement Type, Bronze Main Case
  - v. C701 Cold-Water Meters-Turbine Type, for Customer Service
  - w. C702 Cold-Water Meters-Compound Type
  - x. C704 Cold-Water Meters-Propeller Type for Waterworks Applications
  - y. C800 Underground Service Line Valves and Fittings
  - z. C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4 inch through 12 inch, for Water Distribution
  - aa. C901 Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inch through 3 inch for Water Service

- bb. C905 Polyvinyl Chloride (PVC) Water Transmission Pipe, 14 inch through 36 inch, for Water Distribution
- cc. C909
- dd. M23 PVC Pipe - Design Installation
- 4. National Sanitation Foundation (NSF) Standards
  - a. 14 Plastic Piping Components and Related Materials
  - b. 61 Drinking Water System Components - Health Effects

#### 1.04 SUBMITTALS

- A. Submit the following in accordance with Section, Submittal Procedures:
  - 1. Affidavit of Compliance: Affidavit shall attest that supplied products conform to the referenced standard and this specification and that all tests set forth in each applicable referenced publication have been performed and that all test requirements have been met. Submit for each of the following materials:
    - a. Pipe
      - 1) Ductile iron
      - 2) Polyvinyl Chloride (PVC)
        - i) AWWA C900
        - ii) AWWA C909 Oriented PVC
        - iii) PVC
        - iv) Pressure rated
        - v) Schedule 40 & 80
      - 3) Polyethylene (PE) pressure pipe and tubing
    - b. Valves
      - 1) Gate
        - i) Resilient-Seated
        - ii) Tapping
      - 2) Check
      - 3) Pressure Reducing Valve
    - c. Fire hydrants
    - d. Service valves and fittings
      - 1) Corporation valves
      - 2) Meter valve and check valve
    - e. Backflow prevention assembly
    - f. Meters
  - 2. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following. Clearly indicate equipment to be furnished for the Project including options to be provided.
    - a. Pipe
      - 1) Ductile iron
      - 2) Polyvinyl Chloride (PVC)
        - i) AWWA C900
        - ii) AWWA C909 Oriented PVC
        - iii) Pressure rated
        - iv) Schedule 40 & 80
      - 3) Polyethylene (PE) pressure pipe and tubing
    - b. Valves
      - 1) Gate
        - i) Resilient-Seated

- ii) Tapping
  - 2) Check
  - 3) Pressure Reducing Valve
- c. Castings
- d. Tapping sleeves
- e. Valve boxes
- f. Fire hydrants
- g. Service valves and fittings
  - 1) Service saddles
  - 2) Corporation valves
  - 3) Meter valve and check valve
  - 4) Meter box
- h. Backflow prevention assembly
- i. Meters
- j. Blowoff assembly
- 3. Reports:
  - a. Field test report for each section of pipe for the following:
    - 1) Measured chlorine residual
    - 2) Bacteriological test
    - 3) Pressure test
  - b. Field test report for each backflow prevention device.
- 4. Operation and Maintenance Instructions: Submit complete operation and maintenance manual for the following:
  - a. Valves
  - b. Fire hydrants
  - c. Meters
  - d. Backflow prevention assemblies.

## 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Provide a suitable pipe hook or rope sling when handling the pipe with a crane. Lifting of the pipe shall be done in a vertical plane. Under no conditions shall the sling be allowed to pass through the pipe unless adequate measures are taken to prevent damage to both the tongue and groove ends.
- B. Deliver pipe in the field as near as practicable to the place where it is to be installed. Distribute pipe along the side of the trench opposite to the spoil bank. Where necessary to move the pipe longitudinally along the trench, it shall be done in such a manner as not to injure the pipe or coating.
- C. Shield PVC pipe and fittings stored on site from the sun's ultraviolet rays by suitable cover, or indoor storage.

## PART 2 PRODUCTS

### 2.01 DUCTILE IRON PIPE

- A. Pipe and fittings 3-inch to 64-inch shall conform to AWWA C150 and C151 and the following requirements:
  - 1. Size shall be as indicated on the Drawings.

2. Suitable for a system working pressure of 60 psi at the depth indicated on the Drawings with a Type 2 laying condition.
  3. Interior lining to be used in a drinking water system shall be certified and listed in accordance with NSF 61.
  4. Interior shall be lined with cement-mortar with seal coat in accordance with AWWA C104.
- B. Ductile-iron pipe for below ground service shall have push-on or mechanical joints, unless noted otherwise on the Drawings, conforming to AWWA C150 and C151, and to the following requirements:
1. Provide mechanical joint fittings, unless noted otherwise on the Drawings.
  2. Encase pipe in polyethylene conforming to AWWA C105.
- C. Ductile-iron pipe for above ground service shall have flanged joints, unless noted otherwise on the Drawings, conforming to AWWA C115.
1. Pipes to be painted shall have only a shop primer on the outside by the manufacturer. Verify that proposed manufacturer's primer is compatible with the proposed paint system.
- D. Fittings for ductile-iron pipe shall conform to AWWA C110, or C153 and to the following requirements:
1. Joint type shall be as specified above for the supplied ductile-iron pipe.
  2. In lieu of exterior asphaltic coating and interior cement lining, fittings may be provided with a 6-8 mil nominal thickness fusion bonded epoxy coating inside and out in conformance with AWWA C550.
  3. Fittings shall be made of ductile-iron.
- E. Gaskets shall be nitrile material for installation in areas as designated on the Drawings.
- F. Ductile iron pipe on piers shall have Mech-Lok™ rigid restrained joint by Griffith Pipe Products Co. or approved substitute.
- G. Special Pipe Joints
1. Restrained
    - a. Provide restrained joint pipe at fittings and valves on water mains. Length of restrained pipe shall be as indicated on the Drawings. Restrained joints shall be Snap-Lok (Griffin Pipe), Flex Ring and Lok-Ring (American), TR Flex (U.S. Pipe) or approved equal.
    - b. Restrained joint pipe and fittings shall meet all AWWA standards and other requirements as specified above for standard ductile iron pipe and fittings unless addressed herein.
    - c. Field made joints are allowable but should be avoided where possible. Careful planning to locate field cuts in standard pipe sections is preferred. For field made joints in restrained piping, use field weldments or an insert equal to TR Flex Gripper Rings or approved equal. Gasket type field made joints will not be allowed.
    - d. Restrained joint fittings shall be provided by the restrained joint pipe supplier. Fittings shall be of the same model / type as the pipe supplied from the pipe manufacturer.
    - e. Restrained joint fittings may be push-on joint type.



- f. Megalugs, Series 1100, as manufactured by EBAA Iron Sales shall be allowable for restraint where fittings or valves are not available with restrained joints.
- g. Where additional fittings/valves are required for pipes not shown on Drawings, consult with Engineer for length of restrained joint pipe necessary each side of fittings/valve prior to installation of pipe/fitting.
- h. Tees for hydrants do not have to be restrained along the main line except where they are within required restrained length of nearby fittings or valves.
- i. Contractor shall develop a field layout schedule and drawing for restrained joint pipe installations.

## 2.02 POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

- A. General
  - 1. Pipe and fitting size shall be as indicated on the Drawings.
  - 2. PVC materials shall comply with ASTM D1784 with a cell classification of 12454-B.
  - 3. Pipe shall be certified and listed for potable water distribution products in accordance with NSF 14 or 61 and bear the NSF seal on each section of pipe.
- B. AWWA C900: C900 PVC pipe 4-inch to 12-inch shall conform to AWWA C900 and the following requirements:
  - 1. Outside diameter shall conform with ductile-iron pipe.
  - 2. Pipe shall be pressure class 200, with a standard dimension ratio of DR 14.
  - 3. Pipe shall have plain end and elastomeric-gasket bell ends.
  - 4. Fittings shall conform to AWWA C110, or C153 and have mechanical joints. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104.
- C. Ultra Blue IPS: PVCO pressure pipe 6-inch to 12-inch shall be manufactured from a Rigid Poly (Vinyl Chloride) compound in accordance with ASTM F1483 and shall conform to the following requirements.
  - 1. Outside diameter shall conform to iron pipe size.
  - 2. Pipe shall be pressure-rating 200.
  - 3. Pipe shall have an integral elastomeric-gasket bell end. The gasketed joint system shall conform to ASTM D3139.
  - 4. Fittings shall conform to AWWA C110 or C153 and have mechanical joints. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104. Cast Iron OD transition gaskets shall be used with MJ fittings.
- D. Pressure Rated: Pressure Rated (PR) PVC pipe 1-1/2-inch to 12-inch shall conform to ASTM D2241 and the following requirements:
  - 1. Pipe shall be pressure rated 200 with a standard dimension ratio of SDR 21.

2. Pipe shall have an integral elastomeric-gasket bell end. The joints and gaskets shall comply with ASTM D3139 and ASTM F477.
  3. Fittings for pipe 3-inch and larger shall conform to AWWA C110, or C153 and have mechanical joints with transition gaskets as required for the pipe outside diameter. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104.
- E. Schedule 40 & 80: Schedule 40 & 80 PVC pipe 1/2-inch to 12-inch shall conform to ASTM D1785 and the following requirements:
1. Outside diameter shall conform with iron pipe.
  2. Pipe shall be schedule 80.
  3. Pipe shall have an integral elastomeric-gasket bell end or solvent weld joints.
  4. Fittings for the pipe shall conform to ASTM D2466 or D2467 as appropriate for the pipe schedule.

## 2.03 POLYETHYLENE PRESSURE PIPE AND TUBING

- A. Polyethylene pressure pipe and tubing, 1/2-inch through 3-inch, shall conform to AWWA 901 and the following requirements:
1. The line shall be the size indicated on the Drawings and shall be polyethylene tubing.
  2. The line shall be made from material having standard PE code designation PE 3406.
  3. The line shall have a minimum pressure class of 160 psi with a dimension ratio (DR) of DR-9.

## 2.04 TAPPING SLEEVE

- A. Tapping Sleeve: Sleeves shall be 304 stainless steel, flanged for the tapping valve and manufactured for a working pressure of 150 psi. Sleeve shall have a full body 360-degree gasket. Sleeve shall have a 3/4-inch test plug. Bolts and nuts shall be stainless steel.

## 2.05 VALVES

- A. General: Valves shall meet the following requirements:
1. Size shall be as required for the pipe size and material as indicated on the Drawings and specified.
  2. Open by counterclockwise rotation.
  3. Provide an interior protective epoxy coating in accordance with AWWA C550 on ferrous surfaces in contact with the liquid.
  4. Components in contact with the liquid shall be in compliance with NSF 61.
  5. Standard system working pressure is 150 psi.
  6. Equip valves with a suitable means of operation.
  7. Ends shall be mechanical joint for underground location.

8. For buried valves over 5 feet deep, provide extension stems of cold rolled steel to bring the operating nut to within 2 feet of the ground surface. Extension stems shall also be provided as required for floor stands and to floor valve box.
  9. Provide valve accessories as required for proper valve operation for valve locations as indicated on the Drawings and as recommended by valve manufacturer.
  10. Similar valve types shall be of one manufacturer.
- B. Gate Valves, Resilient-Seated: Gate valves 3-inch to 20-inch shall conform to AWWA C509 for and to the following requirements:
1. O-ring stem seal on non-rising (NRS) stem valves.
  2. Valves shall be non-rising stem (NRS) with wrench nut for underground locations and Outside Screw and Yoke (OS&Y) with handwheel for above ground locations unless noted otherwise on the Drawings.
- C. Tapping Valves: Tapping valves shall conform to the specifications for the gate valves as indicated in this Section and the following:
1. Valve shall be specifically modified for the passage and clearance of the tapping machine cutter.
  2. The mating end to the tapping sleeve shall be raised male surface to provide true alignment to the sleeve and tapping machine. The valve shall of the same manufacturer as the tapping sleeve.
- D. Edgecombe County Water and Sewer District No. 3 has passed an Amendment that approves all valves to be manufactured by Clow Corporation.

## 2.06 VALVE BOXES

- A. Valve Box, Below Ground: Boxes shall be high strength cast iron of the screw or telescopic type. Box shall consist of a flare base section, center extension as required, and a top section with the word "WATER" cast in the cover. Length of box shall be such that full extension of box is not required at the depth of water main cover.
- B. Extension Stem (if necessary): Stem shall be sized so as to transmit full torque from the operating mechanism to the valve stem without binding, twisting, or bending. Stem shall be made from extra heavy steel pipe. Stem shall be complete with couplings for connection to valve and floor stand where required. When valve extension kits are used they must be as recommended by the valve manufacturer.

## 2.07 SERVICE VALVES AND FITTINGS

- A. Water service valves and fittings shall conform NSF 61 and AWWA C800 for normal pressure and the following requirements:
1. Service valves and fittings shall conform to Owner's standards. If Owner's standards conflicts with these specifications, consult with Engineer before proceeding.

2. Service saddle: Provide service saddle for service pipe connection to main pipe material. Saddles shall meet the following requirements:
  - a. Brass body to conform to the outside dimension of the main.
  - b. O-ring, Buna N rubber gasket to provide watertight connection.
  - c. Hinged, double bottom strap design.
  - e. Threaded outlet to match threads on corporation valve.
3. Corporation valve
  - a. Stop size shall be the same as service line.
  - b. Inlet thread shall be as per AWWA C800.
  - c. Outlet thread shall be as required for the pipe material specified.
4. Pressure reducing valve
  - a. Shall meet ASSE 1003.
  - b. Bronze body, renewable stainless steel seat.
  - c. Suitable for reducing from an inlet pressure range of 100 – 150 psi to an outlet pressure of 60 psi.
5. Meter boxes
  - a. Boxes and cover shall be cast iron
  - b. Minimum 18 inches deep.
  - c. Sized for required water meter.

## 2.08 FIRE HYDRANTS

- A. Fire hydrants shall conform to AWWA C502 and to the following requirements:
  1. Nozzles: Two (2) 2-1/2-inch hose and One (1) 4-1/2-inch pumper connections.
  2. Nozzle threads: National Fire Protection Association (NFPA) for National (American) Standard Fire Hose Coupling Screw Threads.
  3. Main valve diameter: 5-1/4- or 4-1/2 inch.
  4. Minimum depth of bury: 42-inches.
  5. Inlet connection: 6-inch mechanical joint.
  6. Open counterclockwise.
  7. Close with water pressure.
  8. O-ring seals
  9. Traffic model with frangible sections near the ground line designed to break on impact.
  10. Provide extension for hydrant standpipe as required to set centerline of hydrant nozzle a minimum of 15-inches and a maximum of 24-inches.
  11. Exterior color above ground line shall match Owners.
  12. All hydrants shall be of one manufacturer.

## 2.09 POST HYDRANTS

- A. Blow-offs for 4" and smaller water mains shall be constructed by use of iron bodied self draining, non-freezing post hydrants similar to fire hydrants except smaller and easily discernible from true fire hydrants due to their size and paint color. The post hydrant shall be equipped with at least a 2-3/16" valve opening with a mechanical joint base elbow of size equal to the branch piping to which it is connected. The barrel size shall be 3" with a 1-15/16" single nozzle (National Standard threads) and a tamper proof recessed pentagon operating nut.

Internal operating parts shall be of brass or stainless steel with the valve assembly removable by withdrawal through the hydrant barrel leaving the hydrant in place. Hydrant shall be designed so that no excavation or extension wrenches are required to accomplish valve removal. Hydrant shall be equipped with a traffic breakaway feature and shall receive thrust blocking and crushed stone at the shoe as shown on the details for hydrant installation. Exposed exterior surfaces shall be safety yellow to contrast with the coloration of fire hydrants. Post hydrants shall be Kupferle Foundry Company Eclipse No. 2 or equivalent item manufactured by American Flow Control or Mueller.

## 2.10 METERS

- A. Displacement Type Meters: Displacement type meters shall conform to AWWA C700 and to the following requirements:
  - 1. Meter size shall be as indicated on the Drawings.
  - 2. Meter ends shall match pipe fittings.
  - 3. Provide magnetic drive with sealed gear housing.
  - 4. Totalizer shall have:
    - a. 4-inch dial reading in gallons
    - b. Six-digit totalizer
    - c. Must be capable of remote readout to match Owner's existing system.
  - 5. Meters and meter parts shall be manufactured, assembled, and tested within the United States. Meters shall be manufactured by Neptune T10 w/Prop Read which is compatible with the existing county's meter reading system.
  - 6. The meters shall contain a removable polypropylene strainer screen.
  - 7. All meters shall have meter lock installed with a standard bullet lock. The Contractor shall be required to provide to the Owner five (5) keys for every 100 locks.

## 2.11 REMOTE RADIO FREQUENCY ENCODER

Remote Radio Frequency (RF) Encoder Based Meter Data Acquisition System.

- A. Summary of Equipment: All new water meters whether customer or master meter type shall be equipped with devices which will provide meter identification and total gallons read to a vehicle mounted portable data acquisition unit (PDA). Meters shall be read by use of a vehicle mounted portable personal computer with a radio frequency transceiver capable of interrogating meters at a driveby of 30 mph and recording readings for later download to an office PC for billing reports. The data PDA will store the meter I.D. and total flow to date and readily download the data to a desktop computer which shall interpret the data to provide individual bills and summary reports as desired by the Owner. The equipment which shall be provided by the Contractor is summarized as follows:
  - 1. Register - Each meter shall have a data interrogation compatible waterproof register capable of sending a signal with the meter identification to vehicle

mounted portable Data Acquisition Unit (PDA) by Radio Frequency transmission. The register shall not require batteries or external power but will provide a passive reading to the PDA via a meter box lid mounted meter interface unit (MIU). The register shall comply with the applicable provisions of AWWA C-707 and FCC Regulations with regards to submergence, environmental conditions, signal transmission assembly, and accuracy.

- B. Register - Encoder Type With Meter Interface Unit: The register shall direct mount to the meter main case with a bayonet style connection requiring no bolted connections removable for replacement with the meter in place in the field. The register shall be of the absolute encoding type. Pulse type output registers and registers requiring batteries are not acceptable. The register shall be equipped with encoded 6-digit odometer wheels reading in total gallons with an instantaneous sweep hand with a leak detection indicator on the dial face. Increments of at least tenths of gallons will be visible on the dial face and the units shall be clearly indicated on the face of the register. The register shall be hermetically sealed and compatible with flooded meter box service. The unit shall, in a digital format, simultaneously encode four or six digits of the meter reading for transmission to a meter interface unit for the purpose of transmitting total gallons used through a meter box lid mounted meter interface unit (MIU). Provision shall be made to provide terminal screws which are accessible for routine register change out in the field allowing hookup to an existing MIU. The terminals though accessible shall be water resistant and shall not cause damage to the meter register or MIU in the event of standing water in the meter box. The register shall also provide to the MIU reprogrammable ten-digit identification number. The digitally formatted data transmitted by the register shall incorporate a check sum character to verify correct information transmission and integrity. Data errors shall be noted and indicated by the reading equipment.
- C. Meter Interface Unit (MIU): Each meter shall be equipped with a Radio Frequency Drive-by Meter Interface Unit which shall be mounted by the contractor through the industry standard 1.8" diameter hole in the meter box lid. The unit shall be powered by a 5-year battery and the unit shall be so designed as to not require reprogramming should the battery discharge before its replacement. The unit shall be housed in a NEMA 4 enclosure incorporating a tamper resistant seal. The unit's operating temperature range shall be -22\_F to 149\_F. The MIU shall read the register output once every hour and transmit the data every 4 seconds by radio using the unlicensed frequencies of 902 MHz to 928 MHz in accordance with FCC part 15 regulations. The power output shall conform to FCC part 15.247 requirements and the range of the data transmission shall be at least 300 feet by line of sight.

## 2.12 THRUST BLOCKING

- A. Provide concrete thrust blocking in accordance with the detail on the Drawings.

## 2.13 DISINFECTANT

- A. The following products may be used as the disinfectant:
  - 1. Chlorine, liquid: AWWA B301.

2. Hypochlorite, calcium and sodium: AWWA B300.

#### 2.14 DETECTABLE MARKING TAPE

- A. A three-inch wide 0.5 millimeter thickness detectable marking tape shall be installed over all PVC pipelines. The top shall be clearly marked "water main" and shall be centered over the main twelve inches below finished grade. Any breaks in the tape shall be repaired in accordance with the manufacturer's recommendations.
- B. Tape shall be by Blackburn Manufacturing, Joseph G. Pollard Co., or Reef Industries Inc.

#### 2.15 TRACER WIRE

- A. Tracer wire shall be #12 wire.
- B. Splices in tracer wire are to be kept to a minimum and joined with copper split nuts of appropriate size.

### PART 3 EXECUTION

#### 3.1 GENERAL

- A. Pipe installation shall meet the following general guidelines:
  1. Lay pipe in the presence of Engineer, unless specifically approved otherwise.
  2. Handle pipe and accessories in accordance with manufacturer's recommendations. Take particular care not to damage pipe coatings.
  3. Carefully inspect pipe immediately prior to laying. Do not use defective pipe. Replace pipe damaged during construction.
  4. Lay pipe to grade and alignment indicated on the Drawings.
  5. Provide proper equipment for lowering pipe into trench.
  6. Do not lay pipe in water or when the trench or weather conditions are unsuitable for the work.
  7. Provide tight closure pipe ends when work is not in progress.
  8. Keep pipe interior free of foreign materials.
  9. Clean bell and spigots before joining. Make joints and lubricate gasket in accordance with pipe manufacturer recommendation.
  11. Disinfection of pipe during installation:
  12. Soak gaskets for minimum of one hour in a 50 - 100 ppm hypochlorite solution prior to installation.
  13. Mop bells and spigots of pipe, fittings and valves with a 50 - 100 ppm hypochlorite solution immediately prior to making joints.

14. Block fittings with concrete, or restrain as indicated on the Drawings or as required to prevent movement.

### 3.2 RELATION OF WATER MAINS TO SEWERS

- A. Lateral Separation: Lay water mains at least 10 feet laterally from existing and proposed sewers. Where existing conditions prevent a 10-foot lateral separation, the following shall be followed with approval of the Engineer:
  1. Lay water main in a separate trench, with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
  2. Lay water main in the same trench as the sewer with the water main located at one side on a bench of undisturbed earth, and with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
- B. Crossing Separation: Lay bottom of water main at least 18-inches above the top of the sewer. Where existing conditions prevent an 18-inch vertical separation, construct both the water main and sewer of ferrous materials and with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing.
- C. Crossing a Water Main Under a Sewer: When it is necessary for a water main to cross under a sewer, construct both the water main and the sewer of ferrous materials and with joints equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.

### 3.3 WATER SERVICE

- A. Water service lines shall extend from the main distribution line to a meter box located at the right-of-way.
- B. All water service taps shall be made using a service saddle.
- C. Taps shall be located at 10 or 2 o'clock on the circumference of the pipe.
- D. Service taps shall be staggered, alternating from one side of the water main to the other and at least 12 inches apart.
- E. Taps on the same side of the main shall be a minimum of 24 inches apart.
- F. Install meter boxes and water service components so top of meter will be within 6 inches of the surface.
- G. Contractor will provide and install water meter as directed by Edgecombe County Water Department.
- H. The water meters to be installed within Speed corporate limits will be supplied by Edgecombe County Water Department. The contractor will be responsible



for installing the new water meters at the right-of-way for each service. The valve boxes and any components necessary to install the new water meters shall be supplied and installed by the contractor. The contractor will also supply and install a new water line from the newly installed water meter to each residence as directed by Edgecombe County Water Department. Old water meters and valves boxes will be removed and disposed of as directed by Edgecombe County Water Department. Contractor will be responsible for clean-up and returning private property to original condition.

### 3.4 DUCTILE IRON PIPE

- A. Install pipe in conformance with AWWA C600 and the following:
  - 1. For laying pipe in a vertical or horizontal curve, each full length pipe may be deflected by the following offset distance:
    - a. Push-on joint
      - i. 3 to 12-inch pipe: 14-inch offset
      - ii. 14 to 36-inch pipe: 8-inch offset
    - b. Mechanical joint
      - i. 3 to 6-inch pipe: 20-inch offset
      - ii. 8 to 12-inch pipe: 15-inch offset
      - iii. 14 to 20-inch pipe: 8-inch offset
      - iv. 24 to 36-inch pipe: 6-inch offset

### 3.5 PVC PRESSURE PIPE

- A. Install PVC C900 pipe in conformance with AWWA C605.
- B. Solvent Weld: Field cut ends shall be sanded to roughing the surface. Joints shall be cleaned of foreign material. Solvent shall be applied to the joint and joint made as recommended by the manufacturer. Excess solvent shall be wiped off. Joint should not be moved until sufficiently set up.
- C. Bell and Spigot Joints: Clean bell and spigot ends prior to jointing. Ends of field cut pipe shall be beveled with file. Gasket shall be clean and lightly lubricated. Joint shall be made as recommended by the manufacturer.

### 3.6 VALVES AND FITTINGS

- A. Install buried valves on firm foundation of crushed stone or concrete. Connection to pipe shall be such that there shall be no stress at the joint caused by misalignment or inadequate support of pipe or valve.
- B. Valve Box: Set a valve box over each buried valve. Support box so that no stress shall be transmitted to the valve or pipe line. Install box plumb and set top flush with finished grade. Operating nut shall be centered in box. Provide a 24-inch x 24-inch wide by 6-inch thick concrete pad at top of valve boxes outside paved areas.

- C. Valve operation nut shall be within 30 inches of the top of box. Provide stem extension if necessary to bring operating nut to within 30 inches of the top of box.
- D. Install fittings as recommended by the manufacturer. Fittings shall be blocked or otherwise restrained from movement.
- E. Install valves, gates, and accessories indicated on the Drawings and in complete accordance with the manufacturer's recommendations.
- F. Install air / vacuum valve inside a manhole.

### 3.7 METERS

- A. Install meter boxes and water service components so top of meter will be within 6 inches of the surface.
- B. The Contractor will install water meter.

### 3.8 HYDRANT

- A. Set hydrant in accordance with detail on Drawings.

### 3.9 PAINTING

- A. Equipment shall receive the manufacturer's standard coating for the intended application. Coatings shall be suitable for the intended application.
- B. Repaint damaged paint services.

### 3.10 TESTING

- A. Install and test Backflow prevention devices in accordance with the requirements of the local authority having jurisdiction.

### 3.11 PRESSURE TESTING

- A. Pressure test in accordance with AWWA C600 for ductile iron pipe and AWWA C605 and M23 for PVC pipe and as specified herein
- B. General:
  1. The Engineer shall approve the source, quality, and method of disposal of water to be used in test procedures.
  2. Obtain Owner's permission 48 hours prior to filling or flushing of pipe system with water from Owner's water system. Owner shall operate valves connected to the existing water system. Where large quantities of water may be required for flushing, Owner reserves the right to require that flushing be done at periods of low demand.
  3. Clean and flush pipe system of foreign matter prior to testing.

4. Provide air vents at the high points in the line section to be tested for releasing of air during filling. Service corporation stops may be used for air vent when located at a high point. Include cost of air vents in price of testing. Leave corporation stops in place after testing and note locations on As-Built Drawings.
5. Allow concrete blocking to reach design strength prior to pressure testing.
6. Test main prior to installation of service taps.
7. Repair defects in the pipe system. Make repairs to the same standard as specified for the pipe system.
8. Retest repaired sections until acceptance.
9. Repair visible leaks regardless of the test results.
10. Pipe sections shall not be accepted and placed into service until specified test limits have been met.

C. Testing

1. Notify Owner and Engineer a minimum of 48 hours prior to testing.
2. Perform tests in the presence of Engineer.
3. Make pressure tests between valves. Furnish suitable test plugs where line ends in "free flow."
4. Upon completing a section of pipe between valves, test pipe by maintaining for a two hour period a hydrostatic pressure of 150 psig.
5. Test pressure shall not vary by more than +/- 5 psi for the duration of the test.
6. No length of line shall be accepted if the leakage is greater than that determined by the following formula based on the appropriate test pressure:  

$$L = \text{Allowable leakage per 1,000 feet of pipe in gallons per hour.}$$

$$D = \text{Nominal diameter of the pipe in inches.}$$
  - a. 100 psi:  $L = D \times 0.07$
  - b. 150 psi:  $L = D \times 0.08$
  - c. 200 psi:  $L = D \times 0.09$
  - d. 250 psi:  $L = D \times 0.10$

3.12 DISINFECTION

- A. After satisfactory completion of the pressure test, disinfect new potable water mains and existing mains that have required repair in accordance with AWWA C651 and as specified herein. Disinfect water mains in a maximum length per day of 2,000 feet.
- B. General:
  1. Provide a superintendent experienced in the required procedures for disinfecting with chlorine.
  2. Obtain Owner's permission 48 hours prior to filling, flushing, and chlorinating of the water mains. Owner shall operate valves connected to the existing water system.
  3. Do not allow highly chlorinated water into the existing distribution system.
  4. If there is any question that the chlorinated discharge will cause damage to the environment, a reducing agent shall be applied to the water to neutralize the residual chlorine. Federal, state, or local environmental regulations may

require special provisions or permits prior to disposal of highly chlorinated water.

5. Perform disinfection and testing in presence of Engineer.
- C. Connection to Existing System: Notify Owner 48 hours prior to making connections to the existing system. Thoroughly clean the existing water main exterior prior to the installation of tapping sleeves and corporation stops. Lightly dust with calcium hypochlorite powder the water main exterior and the interior surface of the tapping sleeve, and corporation stops.
- D. After satisfactory flushing of the main, disinfect by the injection of a chlorine solution. Induce chlorine in sufficient quantity to maintain a chlorine residual of at least 50 ppm throughout the system to be tested. Maintain the chlorine solution in the system for at least 24 hours.
- E. Valves and Fire Hydrants: Open and close valves on the mains being disinfected a minimum of three times during the chlorine contact period and a minimum of three times during flushing. Fire hydrants and other appurtenances should receive special attention to insure proper disinfection.
- F. For Cut-In Construction: Use the following procedures for disinfecting of the new installation and the existing main at the cut-in point in accordance with AWWA C651, Section 9:
  1. Apply liberal quantities of hypochlorite, in the form of tablets, to the open trench.
  2. Interior of new pipe and fittings and the ends of the existing mains shall be swabbed or sprayed with a one percent hypochlorite solution before installation.
  3. Install a 2-inch tap downstream of the work area. Tap shall be used for blowing off the main. Or use the next fire hydrant downstream of the work area for blowing off the main.
  4. Install a 2-inch tap just upstream of the new installation. Control Water from the existing system so as to flow slowly into the work area during the application of chlorine. After the line is thoroughly flushed, add chlorine solution at a concentration of 100 ppm by the continuous feed method and hold in the main for one (1) hour.
- G. Prior to flushing, the free chlorine residual shall be a minimum of 10 ppm. Flushing of the lines shall proceed until the lines contain the normal chlorine residual of the system.
- H. Bacteriological and Chlorine Residual Sampling and Testing
  1. Test for free chlorine residual at required bacteriological test locations immediately after induction of highly chlorinated water and again after 24-hours, prior to flushing of the highly chlorinated water from the potable water system.
  2. Obtain two samples at each location specified after the chlorination procedure is completed, and prior to placing the system in service. Take the first sample immediately after flushing of the chlorinated water and again in

24-hours. A set of samples shall be taken as a minimum at the following locations:

- a. Every 1,200 lf
  - b. End of each main.
  - c. A minimum of one from each branch.
  - d. Mains at cut-in locations: Each side of work area. Time between samples to be determined by Engineer in field.
3. Recommended additional samples. During the required sampling of water from the new system, it is recommended that samples be taken from the existing potable water source to determine if coliforms are present.
  4. Care in sampling. No hose or fire hydrant shall be used for the collection of samples. Take samples from an approved sample tap consisting of a corporation stop installed in the main with a copper tube gooseneck assembly. Operation shall be such as to ensure that the sample collected is actually from water that has been in the new system.
  5. Test samples for the presence of coliform organisms in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater. Testing method used shall be either the multiple-tube fermentation technique or the membrane-filter technique.
  6. A laboratory certified for the required testing by the State of North Carolina shall perform testing.
  7. Test for odor. The water in the new system should also be tested to assure that no offensive odor exists due to chlorine reactions or excess chlorine residual.
  8. If samples show the presence of coliform, procedure 1 or 2 described below shall be followed, with the approval of the Owner, before placing the unit or facility in service.
    - a. Take repeat samples at least 24 hrs. apart until consecutive samples do not show the presence of coliform.
    - b. Again subject the system to chlorination and sampling as described in this section.
  9. If samples are free of coliform, and with the approval of the Owner, the potable water system may be placed in service.
- I. Contamination: If, in the opinion of the Engineer, possible contaminants have entered the existing water system, or water samples show the water in the existing system to be unsafe on completion of the work, the existing water system shall be disinfected as specified herein and shall include all contaminated components. Disinfection of the existing system shall be coordinated with the Owner.
- 3.13 VALVE OPERATION
- A. Prior to final acceptance provide competent personnel to operate each valve in presence of Engineer. Verify that valves are left in the open position.
- 3.14 GRADING AND CLEAN-UP
- A. General:

1. Provide for testing and clean-up as soon as practicable, so these operations do not lag far behind the pipe installation. Perform preliminary clean-up and grading as soon as backfilling operations are complete.
2. All finished surfaces are to provide adequate drainage. The finished surface shall be reasonably smooth, compacted, free from irregular surface changes and comparable to the smoothness of the adjacent surfaces.
3. Surfaces shall be sloped to drain away from structures.
4. All existing grassed or seeded areas damaged by the Contractor shall be replaced with the same type of grass as the adjoining area without additional cost to the Owner. The Contractor at his option may seed such areas and maintain them until a satisfactory stand of grass is obtained or may sprig or sod the areas to obtain the same result. A repaired area shall be considered satisfactory when a stand of grass has been obtained and is growing vigorously. The Contractor shall provide lime and fertilizer as may be required and water for maintaining the areas until accepted by the Engineer.
5. Upon completion of backfilling operations, all excess earth, broken pavement, rock, shoring and other materials and debris resulting from the operations shall be removed from the work areas and disposed of by the Contractor. He shall find his own disposal areas and bear all costs arising from the disposal of this excess material and debris.

B. Finish Grading and Cleanup

1. Particular care shall be taken to cleanup lawns and residential yards and shoulders and ditches fronting lawns and residential yards during pipe installation.
2. The Contractor shall establish in all his crews a minimum standard of preliminary cleanup to occur at the time of excavation and backfill of the water main. This cleanup will be done concurrent with pipe installation and will be required of the crew performing the pipe installation. Crews which cannot or will not perform this minimum preliminary cleanup will be required to cease operation and leave the site. The Contractor will then provide an alternate crew with no claim for additional time or compensation therefore. The minimum preliminary cleanup shall consist of the following:
  - a. Backfill of the trench flush with surrounding grade and free from humps or holes or depressions which are larger than 10 square feet and deeper or higher than 8" at their deepest point.
  - b. Driveways with 90% Standard Proctor Compaction or better with stone in any soft yielding spots such that the drive is traversable by vehicular, bicycle and pedestrian traffic. The drive shall be free of dips and humps. Residents must be provided ingress and egress through drives with their vehicles as soon as backfill operations through the drive are complete. No resident will be

denied access with his vehicles overnight due to contract operations. This shall be the Contractor's responsibility.

- c. Original drainage patterns must be established as part of preliminary cleanup. All disturbed surfaces must be worked at the time of backfill until they drain. If the terrain is too wet to work the surfaces as required to drain them then pipelaying shall cease in the wet area. Small ponds smaller than 100 square feet after rainfalls events are to be expected occasionally prior to final cleanup and will not be cause to consider preliminary cleanup unsatisfactory.
  - d. Mailboxes shall be restored by the Contractor at their previous horizontal location and height. Contractor shall provide firmly compacted access by mail carrier vehicles to the mailbox including the use of stone if required.
  - e. Debris, rubble, rock, trash, packing materials, pipe, lubricants, stockpiles, trees, stumps, branches, and equipment must be removed by the Contractor.
  - f. Regulatory signs must be restored, holes near or in the roadway must be filled flush and soil or debris humps or ridges on or near the roadway must be removed by the Contractor immediately as they pose a safety hazard. It shall be the implicit duty of the Contractor to control and maintain site safety at all times without need of instruction to do so.
3. Final cleanup shall follow preliminary cleanup as soon as practical after pipeline construction. At the time of payment requests, final cleanup shall be within one mile of the current pipe laying operations for each crew. In addition, final cleanup must be completed any given road before the crew constructing the pipeline on that road can move to another road. Final cleanup includes all items required for a finished project including final grading, repair of roadways and drives and all testing and chlorination, service installation and punch list items for final acceptance of the water main suitable for final payment and the commencement of service installation.

---END OF SECTION---

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**Revise the 2012 Standard Specifications as follows<****Page 10-58, Sub-article 1036-1 General**

cf f "y g'hmqy kpi 'ugpvgepeg&lt;

Cm'o cvgtkcn'kp'eqpvcev'y kj "r qwdng'y cvgt'uj cm'dg'kp'eqphqto cpeg'y kj "Ugevqkq"3639"qh'y g"Uchg"  
Ftkpnkpi "Y cvgt"Cev0'

**Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:**

cf f "y g'hmqy kpi 'ugpvgepegu&lt;

Vj g'wkwv{ "qy pgt'ku'y g"Gf i geqo dg"Eqwpv{ "Y cvgt"cpf "Ugy gt0Vj g'eqpvcev'r gtupq'ku"Ugxg"Eqdd"  
cpf "j g'ecp"dg'tgej gf "d{ "r j qpg'cv"474/: 45/5: 6: 0'

**Page 15-2, Sub-article 1500-9 Placing Pipelines into Service**

cf f "y g'hmqy kpi 'ugpvgepeg&lt;

Qdvckp"cr r tqxcn'htqo "y g"PEF GP T/Rwdnke"Y cvgt"Uwr r n{ "Ugevqkq'r tkqt"vq'r nckpi "c"pgy "y cvgt"  
rkpg'kpq'ugt'xleg0"Wug"dcen'mqy "r t'gxgp'vqkq"cuugo drkgu'ht"vgo r qtct { "eqppgevkqpu"vq"kuqr'v"pgy "  
y cvgt"rkpgu'htqo "gzkukpi "y cvgt"rkpg0'

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization**

ej cpi g'y g'cmqy cdng'ngcnai g'hqto wv"vq&lt;"

$$W = LD\sqrt{P} \div 148,000$$

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization, sixth paragraph:"**

Tgr nceg'y g'r ctci tcr j "y kj "y g'hmqy kpi &lt;

Ugtkkl g'y cvgt"rkpgu'kp"ceeqtf cpeg'y kj "Ugevqkq"3225"qh'Vj g"Twgu'I qxgtplkpi "Rwdnke"Y cvgt"  
uwr r n{ "cpf "CY Y C"E873"Ugevqkq"6060."y g'Eqpvkpwqwu"Hggf "O gvj qf 0"Rtqxf g'c"ej ntlpg"  
uqnwqkq"y kj "dgvy ggp"72"r ctu'r gt"o knkqp"cpf "322"r ctu'r gt"o knkqp"kp'y g'kp'kcn'hggf 0"K'y g"  
ej ntlpg'ngxgn'f tqr u'dgmqy "32"r ctu'r gt"o knkqp"f wtkpi "c"46"j qwt'r gtlqf."y gp'hwuj."tghkn'y kj "  
htguj"ej ntlpg'uqnwqkq."cpf "tgr gev'htq"46"j qwtu0"Rtqxf g'egt wkgf "dcevgtkqmi kcn'cpf "  
eqpvco kpcpv'guv'tguwu'htqo "c'ucv'g/cr r tqxgf "qt'ucv'g/egt wkgf "rdqtcvqt { 0"Qr gtcv'g'cm'xcxgu"  
cpf "eqpvtkn"vq"cuwv'g'y qtqwi j "ugt'kkl cvkq0

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization, seventh paragraph:"**

f g'gvg'y g'y qtf u'oo c { "dg'r gthqto gf "eqpewtgpwv{ "qt"eqpugewkxgn{ 0""  
cpf "tgr nceg'y kj "ouj cm'dg'r gthqto gf "eqpugewkxgn{ 0"

"

"

"



**Page 15-7, sub-article 1515-2 Materials,**

tgr nceg'r ctc i tcr j "dgi kppkpi "ōF qwdrg'ej genīxcīkguī ō'y kj 'y g'hqmny kpi <"

F qwdrg'Ej genīxcīkguī\*F EX+"cpf "T gf wegf "Rtguwtg\ qpg'r tīpekr cī\*TR\ +"dcenīmny "r t g x g p v k p p"  
cuugo dīngu'uj cī'dg'rūvgf "qp'y g'Wpīxgtukī\ 'qh'Uqwj gtp'Ecrīhītpīc'Hqwpf cīkpp'hīq't'Etquu/  
Eqppgevkpp'Eqpvtqī'cpf "J { f t c w l e "T g u g c t e j 'h u v 'q h 'c r r t q x g f "d c e n i m n y "f g x l e g u 0'

**Page 15-7, Article 1510-4 MEASUREMENT AND PAYMENT,** "cf f "y g'hqmny kpi "r ctc i tcr j "  
chgt'hpg'9<"

Vj g's wcpvkī\ "qh'Ductile Iron Water Pipe Fittings"y kī'dg'o gcuwtgf "cpf "r cīf "r gt "r qwpf "dcugf "qp"  
y g"r wdrīkj gf "y gī j v u" h q t "f w e v k g "k t q p "h k v k p i u . "g z e n w u k x g "q h 'y g "y g i j v u "q h 'c p { "c e e g u u q t k g u . "c u "  
rūvgf "k p " y g " ō F K ' H k v k p i u " Y g i j v ' E j c t v ō " m e c v g f " c v ' y g " P E F Q V " W k r k l g u " y g d " u k g 0' " K i " y g "  
Eqpvtcevt "grgeu"vq "wug"eqo r cev'f wevkīg "kqp"y cvgt "r k r g "h k v k p i u . "o g c u w t g o g p v 'y k n i 'd g "d c u g f "q p "  
y g "y g i j v ' q h ' u c p f c t f " u k g " f w e v k g "k t q p "y c v g t "r k r g "h k v k p i u 0' " C p { "h k v k p i " p q v ' r u v g f "y k n i 'd g "  
o g c u w t g f "d c u g f "q p " y g "r w d r i k j g f "y g i j v u " h q t "f w e v k g "k t q p "h k v k p i u " r u v g f "k p " C P U K C Y Y C " E /  
332IC43020Vj kī'kī'rīko kīgf "vq'r tguwtg'r k r g '6' l p e j g u 'q t 'h t i g t 0'

**Page 15-7, Article 1510-4 MEASUREMENT AND PAYMENT,** cf f "y g'hqmny kpi "r c { 'kgo <"

**Pay Item**

F wevkīg "Kqp"Y cvgt "Rkr g "Hkvkpi u"

**Pay Unit**

Rqwpf "

**Page 15-9, Article 1515-4 MEASUREMENT AND PAYMENT,** nkg'4: . 'f grvg'ōhkvkpi uō0'

**Page 15-13, Article 1520-4 MEASUREMENT AND PAYMENT,** "cf f "y g'hqmny kpi "r ctc i tcr j "  
chgt'hpg'4<"

Vj g's wcpvkī\ "qh'Ductile Iron Sewer Pipe Fittings"y kī'dg'o gcuwtgf "cpf "r cīf "r gt "r qwpf "dcugf "qp"  
y g"r wdrīkj gf "y gī j v u" h q t "f w e v k g "k t q p "h k v k p i u . "g z e n w u k x g "q h 'y g "y g i j v u "q h 'c p { "c e e g u u q t k g u . "c u "  
rūvgf "k p " y g " ō F K ' H k v k p i u " Y g i j v ' E j c t v ō " m e c v g f " c v ' y g " P E F Q V " W k r k l g u " y g d " u k g 0' " K i " y g "  
Eqpvtcevt "grgeu"vq "wug"eqo r cev'f wevkīg "kqp"ugy gt "r k r g "h k v k p i u . "o g c u w t g o g p v 'y k n i 'd g "d c u g f "q p "  
y g "y g i j v ' q h ' u c p f c t f " u k g " f w e v k g "k t q p "u g y g t "r k r g "h k v k p i u 0' " C p { "h k v k p i " p q v ' r u v g f "y k n i 'd g "  
o g c u w t g f "d c u g f "q p " y g "r w d r i k j g f "y g i j v u " h q t "f w e v k g "k t q p "h k v k p i u " r u v g f "k p " C P U K C Y Y C " E /  
332IC43020Vj kī'kī'rīko kīgf "vq'r tguwtg'r k r g '6' l p e j g u 'q t 'h t i g t 0'

"

**Page 15-13, Article 1510-4 MEASUREMENT AND PAYMENT,** cf f "y g'hqmny kpi "r c { 'kgo <"

**Pay Item**

F wevkīg "Kqp"Ugy gt "Rkr g "Hkvkpi u"

**Pay Unit**

Rqwpf "

**Page 15-18, Section 1550 TRENCHLESS INSTALLATION OF UTILITIES:** Tgr nceg"y kī  
ugevkpp'y kj 'y g'hqmny kpi <"

"

"

"

"

## SECTION 1550 TRENCHLESS INSTALLATION OF UTILITIES

Gttqt#Wug'yj g'J qo g'vcd'v'cr r n' "Ugevkqp'P wo dgt'Ej ct'v'v'g'vzv'v'cv' {qw'y cpv'v'cr r gct'j' gtg0  
**1 DESCRIPTION**

Kpucm'r kr g' wukpi "c" tgepj ngu'o g'v' qf 0' "Rkr g' tghgtu" v' "v' g' ur gekhgf "r kr g." y j lej "o c { "dg" v' g' rtko ct { "ecttltg'r kr g' qt" cp" gpecugo gpv' r kr g0' "Uj qtkpi "o gcpu" v' g' gct'v' "uwr r qtv' u { ugo "wugf "hqt" kpuvcnkpi "v' g' r kr g0' "Vj g' vgtu u" hqt" gpecugo gpv' "ecukpi ." gpecugo gpv' r kr g' cpf "ecukpi "r kr g' ctg" kpvgtcj cpi gdcrg0'"

Cp' gpi kpggt' hkgpugf "d { "v' g' Ucvg' qh' P qtv' "Ectqrkpc" u'j cml' f guli p' v' g' o g'v' qf "cpf "egtwh { "v' g' y qtnl' y kmpqv' f co ci g' v' g' tqcf y c { "cdqxcg' qt" gp' f cpi gt' v' g' tqcf y c { "wugt0'

Gttqt#Wug'yj g'J qo g'vcd'v'cr r n' "Ugevkqp'P wo dgt'Ej ct'v'v'g'vzv'v'cv' {qw'y cpv'v'cr r gct'j' gtg0  
**2 MATERIAL**

Tghgt'v'v'F kxkukqp'320'

Item	"	Section"
Eqpetgvg"		3222"
Gpecugo gpv'Rkr g"		3762"
Hqy cdrng'Hkr"		3222/8"
Utwewtcn'Vko dgt"		32: 4"
Utwewtcn'Uggg"		3294"
Vtgcvgf'Vko dgt"		32: 4/5"

Wug' r kr g' lqkpu' v' cv' ctg' o qf hkgf "v' uwk' v' g' kpuvcmvkqp" o g'v' qf 0' " Rtqxf g' gpi kpggtkpi " ecrewvkvpu'hqt' r kr kpi "cpf "uj qtkpi 0'" Uwdo k'o cvgtkcn'egtwhkcvkpu'cpf "qdvckp' cr r tqxcn' hqt qo "v' g' F gr ctvo gpv'u' Gpi kpggt' dghgt' g' kpuvcmvkqp0'

Wug' uvggn' qt "eqpetgvg" r kpgt' r r vgu0' "Uvggn' wppgn' r kpgt' r r vgu" u'j cml' o gg'v' Ugevkqp'38" cpf "47" k'p" AASHTO LRFD Bridge Design Specifications0' " Eqpetgvg" r kpgt' r r vgu" u'j cml' o gg'v' CCUJ VQ' ur gekhkecvkpu0'

Ftkmkpi "hmkf u' eqpukv' qh' y cvgt. "dgpvqpkg" cpf "r qn { o gt' cf f kkgu0'

Qv' gt' o cvgtkcn' y kml' dg' eqpukf gtgf' y kj "cf gs wcv' f guli p' cpf "s wcrkv { "eqpvtqr0'

Gttqt#Wug'yj g'J qo g'vcd'v'cr r n' "Ugevkqp'P wo dgt'Ej ct'v'v'g'vzv'v'cv' {qw'y cpv'v'cr r gct'j' gtg0  
**3 CONSTRUCTION METHODS**

### (A) General

Cr r n' "Ugevkqp'3727' hqt" gzeccvkvq. "tgepj kpi ." r kr g' r { kpi "cpf "dcenhknt0'

Kpucm' v' g' r kr g' v' v' g' r kpgu' cpf "i tcf gu' u'j qy p' k' v' g' r rcpu0' "Wug' y qtngtu' v' cv' ctg' unknkf "k' v' g' o g'v' qf "qh' eqputwkvq0' "Eqputwv' y kj "i qqf "y qtno cpuj kr "d { "unknf "y qtngtu' cnpi "y kj " r tqr gt' uchgv { "r tgecvkvkpu0'

Nqecvg' gp' f u' qh' tgepj ngu' eqputwkvq" cpf "r ku' dg { qpf "v' g' xgj keng" tgeqxgt { "ctgc" qh' v' g' tqcf y c { 0' " Vj g' xgj keng" tgeqxgt { "ctgc" o c { " dg" tgf wegf " wukpi " ceegr wdrng" vchle" eqpvtqr0' o g'v' qf u0'

### (B) Design

"

"

"

Eqpvtcev'r rpu'y kn'uj qy "c'tgpej nguu'o gj qf "lpenwf lpi "dw'pqv'iko kgf "v'igpi yj . 'r tqhkg"cpf " dqtg'r k'mqecvkpu'dcugf "qp"cxckrdng"lphqto cvkp0"Vj g'Eqpvtcevqtøu'f guki p'uj cm'eqphko "y ku" o gj qf " ku" cr r tqr tlcvg" hqt" yj g" hkgf " eqpf klkpu" cpf " hqt" yj g" ur gekhkgf " r kr g0" " Udwutheg" lphqto cvkp"lp'yj g'xlekp{ "qh'yj g'tgpej nguu'kpuvcvkqp"o c{ "dg"cxckrdng"lp"ceeqtf cpeg'y kj " Ugevkap"324/90"

Cuuguu'uqkn'eqpf klkpu'gZR gevzf "f wtkpi "t gpej nguu'qr gtcvkpu0'

F guki p'yj g'o gj qf "vq"o kpo k g'yj g'xgtvecn'o qxgo gpv'qh'yj g'r kr g"qt"yj g'eqo r ngvzf "tqcf y c{ " ugevkap0"Wug'o gj qf u'qh'eqputwevkqp"cpf "kpuvcvkqp"yj cv'y kn'pqv'f kuwtd"yj g'uqku'qwukf g'qh" yj g'ko o gf kvg"xlekp{ "qh'yj g'r kr g"kg"qt"r ku0'

Dghqtg" eqputwevkqp." r tqxf g" f gvckgf " r rpu" hqt" yj g" o gj qf " qh" kpuvcvkqp" egtvkhgf " d{ " cp"gni kpggt" nkgpugf " d{ " yj g" Ucvg" qh" P qt yj " Ectqkpc0' " Rtqxf g" egtvkhgf " ecrewvkpu" f go qpucvkpi " yj g" o gj qf " qh" kpuvcvkqp" cu'uchg" cpf " qh" o kpo cn' tkun0' " Rtqxf g" egtvkhgf " ecrewvkpu" qh" yj g" utwewtcn' cf gswce{ " qh" cm' o cvgtken0' " Vj g" f guki p' uij cm' o ggV' *AASHTO LRFD Bridge Design Specifications0*" Cp"gni kpggt" nkgpugf " d{ " yj g" Ucvg" qh" P qt yj " Ectqkpc" uij cm' egtvkh{ " ej cpi gu" qt" o qf hkecvkpu" vq" yj g" f guki pgf " o gj qf " cu'pggf gf " hqt" cewcn' hkgf " eqpf klkpu0'

### (C) Water Control

Rtqxf g"i tqwpf y cvgt"eqpvtqn'cpf "tgo qxcn'cu"cr r tqr tlcvg" hqt" yj g" o gj qf " qh" gzeexcvkqp" cpf " kpuvcvkqp0'"Tgo qxg" yj g" i tqwpf y cvgt" wtkpi " cp" gpi kpggtgf " f gy cvgtkpi " u{ ugo " r tqxf gf " lp" yj g' f guki p' uwd0 kwn0" Mggr " uwtceg" y cvgtu'qw'qh'yj g' gzeexcvkqp" cpf " r ku0'

### (D) Shoring

Rtqxf g" vgo r qtct { " qt" r gto cpgpv' uij qtkpi . " cu'pggf gf 0" Rtqxf g" vgo r qtct { " uij qtkpi " vq" o clpvclp" yj g" j qng" qt" r k' gzeexcvkqp" hqt" yj g" f wcvkqp" qh" yj g" y qtn0" " Eculpi " r kr g" 46" lpej gu" cpf " rcti gt. " wppgn' hkgf. " cpf " uij qtkpi " yj cv' ku' pqv' egtvkhgf " hqt" r gto cpgpv' wug' ku' eqpukf gtgf " vgo r qtct { 0" Hkn' yj g" cppwrt " ur ceg" dgvy ggp" yj g" ur gekhkgf " r kr g" cpf " vgo r qtct { " uij qtkpi 0" Rtqxf g" r gto cpgpv' uij qtkpi " yj gp" f guktgf " qt" ur gekhkgf " vq" o clpvclp" yj g" qr gp" j qng" hqt" cp" kpf ghkpg" vko g0" Rgto cpgpv' uij qtkpi " tgs wkt gu' egtvkhkgf " qh' f wcdkklv{ " cpf " c' f guki p' rkhg" qh' 322- " { gctu0'

Hkn' cm' xqkf u" ctqwpf " yj g" gzeexcvkqp" cpf " uij qtkpi " y kj " utwewtcn' hkn' o cvgtken' cu" y qtni' r tqi tguug0'"

Gkj gt" y qtnieqpvkpwqun{ " 46" j qwtulf c{ " cpf " 9" f c{ uly ggm" qp" yj g" qr gtcvkpu' hqo " yj g' vko g' yj g" gzeexcvkqp" dgi kpu" yj tqwi j " yj g' hknkpi " qh' xqkf u" qt" wug" cp" gpi kpggtgf " u{ ugo " hqt" uij qtkpi " yj g" gzeexcvkqp" f wtkpi " y qtni' uqr r ci g0'

### (E) Pre-Construction Meeting

Vj g'Eqpvtcevqt" uij cm' eqpf wev' c" r tg/eqputwevkqp" o ggkpi " y kj " yj g" F gr ctvo gpw0" Gpi kpggt" vq" txxlgy " yj g" r tqr qugf " o gj qf " hqt" kpuvcvkqp" qh" yj g" r kr g0' " Eqpf wev' yj g" o ggkpi " cv' ngcuV' 6: " j qwtu' dghqtg" dgi kppkpi " kpuvcvkqp0" Vj g' o ggkpi " uij cm' eqpukv' qh" dw' ku' pqv' iko kgf " vq" <

\*3+ Rtugpvcvkqp" qh' yj g' eqputwevkqp" o gj qf u' hqt" vpf gtucpf kpi " d{ " cm' kpxqkxgf . "

\*4+ Rtugpvcvkqp" qh' o gj qf u' hqt" hknkpi " cp { " r qvgpvkn' xqkf u" ctqwpf " yj g' r kr g. "

\*5+ F go qpucvkpi " yj cv' cr r tqr tlcvg" gswkr o gpv' cpf " o cvgtken' ctg" qp" uksg. "

\*6+ Rtqxf kpi " c" r tqi tguu' uej gf wrg. " cpf "

\*7+ F go qpwtcvpi "cdkx{ "v'tgcev'v'hcnwtgu'qt'tqcf y c{ 'ugwrgo gpv'qt'j' gcxg0'

Gttqt#Wug'y g'J qo g'cd"v"cr r n{ "Ugevkp"P wo dgt'Ej ct "v'y g'vgz v'y cv'{ qw'y cpv'v"cr r gct"j' gtg0

#### 4 TRENCHLESS METHODS

##### (A) Bore and Jack

Hqt"dqtg"j qrgu'wr "v"8"lpej gu"lp"f lco gvgt"lp"ucdng"i tqwpf. "y g"j qrg"o c{ "dg"cw i wtgf "cpf "y g" r kr g"r wuj gf "qt"lcnegf "y tqwi j "y g"engcpgf "qw"j qrg0"Hqt"dqtg"j qrgu"i tgcvgt"y cp"8"lpej gu." r tqxkf g"eqpvkpwqu"uwr r qt v'qh'y g"j qrg"d{ "uko wncpgqwu"lcnkpi "y g"r kr g"qt"ecukpi "lpv"y g" j qrg0

Wug"gs wkr o gpv'uwxcdn{ "uk gf "cpf "f guki pgf "v"uko wncpgqwu"l dqtg"qt"ftkn'y g"uqkn'qt"tqem' y j krg"r wuj kpi "qt"lcnkpi "r kr g"qp" c"eqpvqmgf "i tcf g0"Rqukkqp"y g"ewwgt"j gcf "y kj kp"qpg" f lco gvgt"qh'y g"rgcf kpi "gf i g"qh'y g"r kr g0"kp"eqj gukg. "f gpug"cpf "ft{ "uqku"cpf "tqem"r qukkqp" y g"ewwgt"j gcf "lp"htqp v'qh'y g"rgcf kpi "gf i g0"kp"pqp/eqj gukg"qt"rqug"uqku." r qukkqp"y g"ewwgt" j gcf "lpukf g'y g"r kr g0

Ft{ "dqtg"qp n{ "f q"pqv"uug"lgw kpi "qt"y gv'dqtkpi "o gyj qf u0"Wug"ftknkpi "hmkf u"qp n{ "qp"y g" qwuuf g'qh'r kr g'hqt"nwdtkecvkp"qt"j qrg"ucdtkk cvkp0

O kpk k g"qxgt"dqtg."o cvej "ewwgt"f lco gvgt"v"y g"qwuuf g"f lco gvgt"qh'y g"gpecugo gpv'r kr g0" Nko k'qxgt dqtg"v"y g"Q(F 0- "4"lpej gu0

Rtqxf g'uvgtkpi "eqpvqnu"cu'pgeguuct{ "v"o clpvkpi"rkpg"cpf "i tcf g0

K'eqpf kkpqu"cmqy "cpf "y kj "y g"cr r tqxch'qh'y g"Gpi kpggt. "y g"Eqpvcevqt"o c{ "grgev'v"uug"y g" r kr g"tco o kpi "o gyj qf "lp"ngw'qh'dqtg"cpf "lcn0"Rc{o gpv'hqt"y g"r kr g"tco o kpi "o gyj qf "y kn' dg'r ckf "cu'dqtg"cpf "lcn0

##### (B) Directional Drilling

Hqt"ftknkf "j qrgu'wr "v"8"lpej gu"lp"f lco gvgt"lp"ucdng"i tqwpf. "y g"j qrg"o c{ "dg"ftknkf "cpf " tgcogf "hmqy gf "d{ "r wnkpi "y g"r kr g"lpv"y g"j qrg"y kj kp": "j qwtu0"Hqt"ftknkf "j qrgu"i tgcvgt" y cp"8"lpej gu."uko wncpgqwu"l r wnl'y g'r kr g"qt"ecukpi "lpv"y g"j qrg"cu'tgco kpi "qeewtu"

Y j gp"wpf gt"r cxgo gpv'qt"y kj kp" c"qpg"j qtk qpwn'v"qpg"xgt v'ecn'f kncpeg"htqo "r cxgo gpv." o clpvkpi"y g'f gr y "qh'eqxgt"lp"Vcdng"3772/30

TABLE Gttqt#Wug'y g'J qo g'cd"v"cr r n{ "Ugevkp"P wo dgt'Ej ct "v'y g'vgz v'y cv'{ qw'y cpv'v"cr r gct"j' gtg01

#### DEPTH OF COVER FOR DIRECTIONAL DRILLING

Drilled Hole Diameter	Minimum Depth of Cover
4\$'v"8\$"	8'k"
@8\$'v"37\$"	34'ko gu'y g'j qrg"f lco gvgt"
@37\$'v"58\$"	37'k"

Dgi kp"dqtgu'cv'hqecvkpu'y cv'cmqy "tcpukkp kpi "y g"dqtg"v"o gg'v'y g'cdqxf'f gr y u0

Wug"ftknkpi "hmkf u"cu'cr r tqrtkvg'hqt"y g"v'r g"uqku0"Rwo r "ftknkpi "hmkf u"qp n{ "y j krg"ftknkpi " qt'tgco kpi 0"O qpksqt"mqy "tcvgu"v"o cvej "y g"co qwpv'ngcxkpi "y g"dqtg"j qrg0"fq"pqv'kpetgcug" r tguwtg"qt"mqy "v"htgg'uwenif tknj gcf u."tgco gtu"qt"r kr kpi 0

Nko k'f tkrngf "qt'tgco gf "j qrgu'vq'307'z "Q0F 0'hqt'r kr g'34'lpej gu'qt'rguu'cpf "Q0F 0'- "8'lpej gu'hqt' r kr gu'nti gt'v'j cp'34'lpej gu' "

### (C) Tunneling

Vwppgn' wukpi " j cpf " o kpkpi ." o gej cplecn' gzeccxvqp." wppgn' dqtapi " o cej kpg " \*VDO +." o letqwppgnkpi ."qt'qv'j gt'ceegr vgf "wppgnkpi "o gj qf 0"Wug'wppgn'uj kgrf u'qt'hqtg'r qrkpi "cmppi " y kj " dgpej gf " gzeccxvqp" cpf " dtgcu' dqtcf kpi " cu" cr r tqr tlcvg" hqt " v'j g" hgrf " eqpf kkpup0" Cngtpcvkxgnf ." v'j g" Eqpvtcevtai" gpi kpggt " o c{" egtvkhf " v'j cv" v'j g" uqkui" ctg'" ugrh/uwr r qtvkpi "qh'v'j g'f gcf "cpf "rkxg'hqcf u'cpf "f guki p'wppgnkpi "o gj qf u'cu'cr r tqr tlcvg0"

Rtqxkf g'cevkg'uwr r qtv'v'j g'wppgn'y cmu0"Uj qtg'wppgn'y cmu'wukpi "rkpgt'r rvgu."uvgn'tkdu" y kj "rci i kpi "qt'qv'j gt'gpi kpggtgf "o gj qf "qt'd{"lcnkpi "r kr kpi "kpv'r rneg0"

Nko k'qxgt'gzeccxvqp"v'j 4'lpej gu'nti gt'v'j cp'v'j g'rkpgt'qt'uj kgrf 0"I tqw'v'j g'gzvgtpcn'xqkf u'cu" y qtnlr tqi tguugu'cpf "cu'ur gekhgf "d{"v'j g'Eqpvtcevtai'gpi kpggt0"

### (D) Pipe Ramming

Wug'r kr g'tco o kpi "qpni "y j gtg'uqkui'ctg'j qo qi gpgqu'cpf "hgg'qh'tqem'dqwf gtu."uwo r u'cpf " f gdtku0"F q'pqv'wug'lp'v'j g'xlekpki "qh's wlen'qt'rkxg'hqcf u'qkui0"

Uygn'dcpf u'34'lpej "v'j kmi'ctg'cmjy gf "qp'v'j g'qwu'g'qh'v'j g'rgcf kpi "gf i g'qh'v'j g'r kr g'qt'ecukpi " v'j q'xgtuk' g'v'j g'j qrg'v'j tgf weg'hlekvqp0"Uygn'dcpf u'34'lpej "v'j kmi'o c{"dg'wug'qp'v'j g'lpuk' g' v'j eqo r cev'v'j g'ur qki'cpf "v'j r txxgpv'r mi i kpi 0"

Kpuvcm'cv'v'j g'hqmiy kpi "o kpo wo "f gr v'j qh'eqxgt0"

**TABLE Gttqt#Wug'v'j g'J qo g'cd'v'q'cr r n{"Ugevqp'P wo dgt'Ej ct'v'j g'vgz'v'j cv'{"qw'y cpv'v'q" cr r gct'j gtg02**

#### DEPTH OF COVER FOR PIPE RAMMING

Pipe or Casing Diameter	Minimum Depth of Cover
4\$'v'q'8\$"	6'ln"
@8\$'v'q'36\$"	8'r kr g'f lco gvgtu"
@6\$'v'q'94\$"	: 'ln"

Eqpvckp"ur qki'y kj kp'v'j g'ecukpi "f wtkpi "tco o kpi 0"Chgt'eqo r rvgkqp."wug'eqo r tguugf "ck"qt" cwi gtu"v'j tgo qxg'v'j g'ur qki0"Erncp"v'j g'kpvgtkqt" wukpi "c"r ki 0"Rtqxkf g'cr r tqr tlcvg"uchgvf " f gxkgu0"Nko k'ck'r tguwtg'v'j rguu'v'j cp'v'j g'tcvkpi "qh'v'j g'r kr g'qt'ecukpi 0"

Wug'ndtkecpw'cpf "uwtkecpw'cu'pggf gf "cpf "gpuwtg'xkdtcvkqp'kpf wegf "eqpuqrkf cvkqp'qh'uqkui" f qgu'pqv'tguwn'lp'ugwgo gpvi tgcvg'v'j cp'2024'hggv0"

### (E) Other Methods

Qv'j gt'o gj qf u'y km'dg'eqpukf gtgf "qp'c'ecug'd{"ecug'dcuku'y j gp'v'j qtqwi j n{"gpi kpggtgf 0"

### (F) Lubrication and Drilling Fluids

Wug'f tknkpi "hmkf u'hqt'ndtkecvkqp0"F q'pqv'wug'y cvgt'cmppg0""

Gttqt#Wug'v'j g'J qo g'cd'v'q'cr r n{"Ugevqp'P wo dgt'Ej ct'v'j g'vgz'v'j cv'{"qw'y cpv'v'q'cr r gct'j gtg0

## 5 QUALITY CONTROL

Vj g"Eqptcevt."cv"pq"equv"vq"vj g"F gr ctwo gpv"uj cm'tgr mæg"qt"tgr ckt"f co ci gf "qt"f ghgevxg" kpuvncvku0' " Vj g"o gvj qf "vq"dg" wugf "uj cm' dg" f guki pgf "d{ "vj g"Eqptcevt0" gpi kpggt"cpf " cr r tqxgf "d{ "vj g"Gpi kpggt0

#### (A) Ground Movement

Dghqtg"zxecxcvqp."guvdrkuj "eqptqnr qkpw"ht"o gcuwtkpi "xgtvkecn'o qxgo gpv'qh'vj g'tqcf "cv'32" hggv'kpvgtxcnu"cmipi "vj g"egpvgrtkpg"cpf "32"hggv'gcej "ukf g"qh'vj g"r kr grkpg0"C"rcpf "uwxg{qt" rkegpugf "kp"vj g"Ucvg'qh'P qtvj "Ectqrkpc"uj cm'o qpkqt"vj gug'r qkpw'f ckn{ "wpvkl'eqputwvku0"ku" eqo r rvg0

Egcug"vtgpej ngu"qr gtcvku0'y j gp"o gcuwtgf "o qxgo gpv'gzeggf u"2024"hggv0"F gvgto kpg"ecwug" qh'ugwgo gpv'cpf "tgr ckt"cu'pgeguuct { 0"O qf kh{ "vtgpej ngu'o gvj qf u'cu'pggf gf 0

#### (B) Leakage

Nko k'rgncni g"vj tqwi j "wppgn'y cmu"vq"o kpkt"uggr ci g0"Cm'rgcmu"kp"r kr gu."ecukpi "qt"qvj gt" r gto cpgpv'uj qtkpi "uj cm'dg'ugcrf 0

#### (C) Roundness

Rtqxf g'r gto cpgpv'uj qtkpi "o clpvclpki "cv'rgcu"; 7' "qh'pqo kpcnf kco gvg'kp"cm'f ktgevkpu0

#### (D) External Voids

Hkm'cm'gzvgtpcn'xqkf u'i tgcvt"vj cp"4"lpej gu'j ki j "qt"4"hggv'y kf g0"Hkm'y kj "hny cdrg"hm"i tqw" qt'Ercuu"KKqt"KKUgrgev'o cvgtkr0

Gttqt#Wug'vj g"J qo g'vcd"vq"cr r n{ "Ugevku0"P wo dgt'Ej ct"vq"vj g'vgz'vj cv'{ qw'y cpv'vq"cr r gct"j gtg0  
6 MEASUREMENT AND PAYMENT

*Directional Drilling of 10" HDPE* y km'dg"o gcuwtgf "cpf "r ckt "kp"rkpgct"hggv0"O gcuwtgo gpv' y km'dg"o cf g"j qtk qpvcn{ "vq"vj g'pgctguv'gpvj "qh'c"rkpgct"hqv0"

O gcuwtgo gpv'y km'dg"o cf g"cmipi "wkrkv{ "r kr gu'y kj "tgs vktgf "vtgpej ngu"kpucmvku0"Rc{ o gpv'ht" vtgpej ngu"kpucmvku0"y km'dg"o cf g"cu"cf f kkpkn'eqo r gpucvku0"ht"wkrkv{ "r kr kpi "y kj "eqptcev" r c{ "kgo u"qh'vj g"xctkqu"uk gu0"P q"cf f kkpkn'r c{ o gpv'y km'dg"o cf g"ht"ceegu"r ku"qt"uj qtkpi " tgs vktgf "ht"vj g"kpucmvku0"Uj qtkpi "tgs vktgf "ht"vj g"o clpvpcpeg"qh'vchke"qt"vj g'r tqvgevkp"qh' dvkrf kpi "qt"qvj gt"utwewtgu."qp"qt"qh'vj g'tki j v'qh'y c{."uj cm'dg"r ckt "wpf gt"Temporary Shoring0 P q'r c{ o gpv'y km'dg"o cf g"ht"cdcpf qplkpi "f ghgevxg'kpucmvku0

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Rc{ o gpv'y km'dg"o cf g'wpf gt<

#### Pay Item

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F ktgevkpcn'F tknpi "qh'32ö"J F RG"

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#### Pay Unit

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Nkpgct"Hqv"

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# TECHNICAL WATER SPECIFICATIONS

FOR THE

**NCDOT Project # 17BP.4.R.81**

**Bridge # 320113**

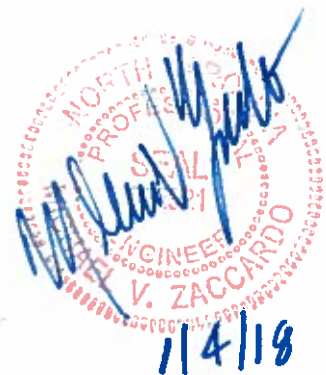
**Waterline Relocation along SR 1102 Otter Creek Church Road  
Over Otter Creek**

LOCATED IN

**EDGECOMBE COUNTY, NC**

January 2, 2018

Prepared by:



PREPARED BY

Wetherill Engineering, Inc.  
1223 Jones Franklin Road  
Raleigh, NC 27606  
Phone 919 851 8077  
Fax 919 851 8107

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## Disclosure Statement:

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## **EDGECOMBE COUNTY**

### **WATER DISTRIBUTION SYSTEM**

#### **PART 1     GENERAL**

##### **1.01    SECTION INCLUDES**

- A.    Work under this section includes, but is not limited to, piping, valves, fire hydrants, water service line, and appurtenances for a complete potable water distribution system.

##### **1.02    RELATED SECTIONS**

- B.    The following Sections have work that is directly related to this Section. This does not relieve the Contractor of his responsibility of proper coordination of all the work:
  - 1.        Section 02315                      Trenching for Utilities
  - 2.        Section 02445                      Bore and Jack of Conduits

##### **1.03    REFERENCES**

- A.    Publications are referred to in the text by basic designation only.
  - 1.        American Society of Sanitary Engineering (ASSE) Standards
    - a.        1013        Reduced Pressure Principle Backflow Preventers
    - b.        1015        Double Check Backflow Prevention Assembly
    - c.        1069        Outdoor Enclosures for Backflow Prevention Assemblies
  - 2.        American Society for Testing and Materials (ASTM)
    - a.        C443        Flexible Watertight Joints for Precast Manhole Sections
    - b.        C478        Precast Reinforced Concrete Manhole Sections 88a
    - c.        C828        Low-Pressure Air Test of Vitrified Clay Pipe Lines (4 to 12 inch)
    - d.        C890        Minimum Structural Design Loading for Monolithic or Sectional Precast Concrete Water and Wastewater Structures
    - e.        C923        Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
    - f.        D1784        Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
    - g.        D1785        Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
    - h.        D2241        Poly(Vinyl Chloride) (PVC) Pressure Rated Pipe (SDR Series)
    - i.        D2466        Socket-Type Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
    - j.        D2467        Socket-Type Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule



- k. D3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
  - l. D3350 Polyethylene Plastics Pipe and Fittings Materials.
  - m. F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
  - n. F1483 Specification for Oriented Poly(Vinyl Chloride) PVCO, Pressure Pipe
3. American Water Works Association (AWWA)
- a. B300 Hypochlorites
  - b. B301 Liquid Chlorine
  - c. C104 Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
  - d. C105 Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids
  - e. C110 Ductile-Iron and Gray-Iron Fittings, 3 inch through 48 inch, for Water and Other Liquids
  - f. C115 Flanged Ductile-Iron Pipe with Ductile Iron or Gray Iron Threaded Flanges
  - g. C150 Thickness Design of Ductile Iron Pipe
  - h. C151 Ductile-Iron Pipe, Centrifugally Cast, for Water
  - i. C153 Ductile-Iron Compact Fittings, 3 inch through 24 inch and 54 inch through 64 inch, for Water Service
  - j. C502 Dry-Barrel Fire Hydrants
  - k. C504 Rubber-Seated Butterfly Valves
  - l. C508 Swing-Check Valves for Waterworks Service, 2 inch Through 24 inch NPS
  - m. C509 Resilient Seated Gate Valves for Water and Sewerage Systems.
  - n. C510 Double Check Valve Backflow-Prevention Assembly
  - o. C511 Reduced-Pressure Principle Backflow-Prevention Assembly
  - p. C512 Air-Release, Air / Vacuum, and Combination Air Valves for Waterworks Service
  - q. C550 Protective Epoxy Interior Coatings for Valves and Hydrants
  - r. C600 Standard for Installation of Ductile Iron Water Mains and Their Appurtenances
  - s. C605 Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
  - t. C651 Disinfecting Water Mains
  - u. C700 Cold-Water Meters-Displacement Type, Bronze Main Case
  - v. C701 Cold-Water Meters-Turbine Type, for Customer Service
  - w. C702 Cold-Water Meters-Compound Type
  - x. C704 Cold-Water Meters-Propeller Type for Waterworks Applications
  - y. C800 Underground Service Line Valves and Fittings
  - z. C900 Polyvinyl Chloride (PVC) Pressure Pipe, 4 inch through 12 inch, for Water Distribution
  - aa. C901 Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inch through 3 inch for Water Service

- bb. C905 Polyvinyl Chloride (PVC) Water Transmission Pipe, 14 inch through 36 inch, for Water Distribution
- cc. C909
- dd. M23 PVC Pipe - Design Installation
- 4. National Sanitation Foundation (NSF) Standards
  - a. 14 Plastic Piping Components and Related Materials
  - b. 61 Drinking Water System Components - Health Effects

#### 1.04 SUBMITTALS

- A. Submit the following in accordance with Section, Submittal Procedures:
  - 1. Affidavit of Compliance: Affidavit shall attest that supplied products conform to the referenced standard and this specification and that all tests set forth in each applicable referenced publication have been performed and that all test requirements have been met. Submit for each of the following materials:
    - a. Pipe
      - 1) Ductile iron
      - 2) Polyvinyl Chloride (PVC)
        - i) AWWA C900
        - ii) AWWA C909 Oriented PVC
        - iii) PVC
        - iv) Pressure rated
        - v) Schedule 40 & 80
      - 3) Polyethylene (PE) pressure pipe and tubing
    - b. Valves
      - 1) Gate
        - i) Resilient-Seated
        - ii) Tapping
      - 2) Check
      - 3) Pressure Reducing Valve
    - c. Fire hydrants
    - d. Service valves and fittings
      - 1) Corporation valves
      - 2) Meter valve and check valve
    - e. Backflow prevention assembly
    - f. Meters
  - 2. Catalog Data: Submit manufacturer's standard drawings or catalog cuts for the following. Clearly indicate equipment to be furnished for the Project including options to be provided.
    - a. Pipe
      - 1) Ductile iron
      - 2) Polyvinyl Chloride (PVC)
        - i) AWWA C900
        - ii) AWWA C909 Oriented PVC
        - iii) Pressure rated
        - iv) Schedule 40 & 80
      - 3) Polyethylene (PE) pressure pipe and tubing
    - b. Valves
      - 1) Gate
        - i) Resilient-Seated

- ii) Tapping
  - 2) Check
  - 3) Pressure Reducing Valve
- c. Castings
- d. Tapping sleeves
- e. Valve boxes
- f. Fire hydrants
- g. Service valves and fittings
  - 1) Service saddles
  - 2) Corporation valves
  - 3) Meter valve and check valve
  - 4) Meter box
- h. Backflow prevention assembly
- i. Meters
- j. Blowoff assembly
- 3. Reports:
  - a. Field test report for each section of pipe for the following:
    - 1) Measured chlorine residual
    - 2) Bacteriological test
    - 3) Pressure test
  - b. Field test report for each backflow prevention device.
- 4. Operation and Maintenance Instructions: Submit complete operation and maintenance manual for the following:
  - a. Valves
  - b. Fire hydrants
  - c. Meters
  - d. Backflow prevention assemblies.

## 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Provide a suitable pipe hook or rope sling when handling the pipe with a crane. Lifting of the pipe shall be done in a vertical plane. Under no conditions shall the sling be allowed to pass through the pipe unless adequate measures are taken to prevent damage to both the tongue and groove ends.
- B. Deliver pipe in the field as near as practicable to the place where it is to be installed. Distribute pipe along the side of the trench opposite to the spoil bank. Where necessary to move the pipe longitudinally along the trench, it shall be done in such a manner as not to injure the pipe or coating.
- C. Shield PVC pipe and fittings stored on site from the sun's ultraviolet rays by suitable cover, or indoor storage.

## PART 2 PRODUCTS

### 2.01 DUCTILE IRON PIPE

- A. Pipe and fittings 3-inch to 64-inch shall conform to AWWA C150 and C151 and the following requirements:
  - 1. Size shall be as indicated on the Drawings.

2. Suitable for a system working pressure of 60 psi at the depth indicated on the Drawings with a Type 2 laying condition.
  3. Interior lining to be used in a drinking water system shall be certified and listed in accordance with NSF 61.
  4. Interior shall be lined with cement-mortar with seal coat in accordance with AWWA C104.
- B. Ductile-iron pipe for below ground service shall have push-on or mechanical joints, unless noted otherwise on the Drawings, conforming to AWWA C150 and C151, and to the following requirements:
1. Provide mechanical joint fittings, unless noted otherwise on the Drawings.
  2. Encase pipe in polyethylene conforming to AWWA C105.
- C. Ductile-iron pipe for above ground service shall have flanged joints, unless noted otherwise on the Drawings, conforming to AWWA C115.
1. Pipes to be painted shall have only a shop primer on the outside by the manufacturer. Verify that proposed manufacturer's primer is compatible with the proposed paint system.
- D. Fittings for ductile-iron pipe shall conform to AWWA C110, or C153 and to the following requirements:
1. Joint type shall be as specified above for the supplied ductile-iron pipe.
  2. In lieu of exterior asphaltic coating and interior cement lining, fittings may be provided with a 6-8 mil nominal thickness fusion bonded epoxy coating inside and out in conformance with AWWA C550.
  3. Fittings shall be made of ductile-iron.
- E. Gaskets shall be nitrile material for installation in areas as designated on the Drawings.
- F. Ductile iron pipe on piers shall have Mech-Lok™ rigid restrained joint by Griffith Pipe Products Co. or approved substitute.
- G. Special Pipe Joints
1. Restrained
    - a. Provide restrained joint pipe at fittings and valves on water mains. Length of restrained pipe shall be as indicated on the Drawings. Restrained joints shall be Snap-Lok (Griffin Pipe), Flex Ring and Lok-Ring (American), TR Flex (U.S. Pipe) or approved equal.
    - b. Restrained joint pipe and fittings shall meet all AWWA standards and other requirements as specified above for standard ductile iron pipe and fittings unless addressed herein.
    - c. Field made joints are allowable but should be avoided where possible. Careful planning to locate field cuts in standard pipe sections is preferred. For field made joints in restrained piping, use field weldments or an insert equal to TR Flex Gripper Rings or approved equal. Gasket type field made joints will not be allowed.
    - d. Restrained joint fittings shall be provided by the restrained joint pipe supplier. Fittings shall be of the same model / type as the pipe supplied from the pipe manufacturer.
    - e. Restrained joint fittings may be push-on joint type.

- f. Megalugs, Series 1100, as manufactured by EBAA Iron Sales shall be allowable for restraint where fittings or valves are not available with restrained joints.
- g. Where additional fittings/valves are required for pipes not shown on Drawings, consult with Engineer for length of restrained joint pipe necessary each side of fittings/valve prior to installation of pipe/fitting.
- h. Tees for hydrants do not have to be restrained along the main line except where they are within required restrained length of nearby fittings or valves.
- i. Contractor shall develop a field layout schedule and drawing for restrained joint pipe installations.

## 2.02 POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

- A. General
  - 1. Pipe and fitting size shall be as indicated on the Drawings.
  - 2. PVC materials shall comply with ASTM D1784 with a cell classification of 12454-B.
  - 3. Pipe shall be certified and listed for potable water distribution products in accordance with NSF 14 or 61 and bear the NSF seal on each section of pipe.
- B. AWWA C900: C900 PVC pipe 4-inch to 12-inch shall conform to AWWA C900 and the following requirements:
  - 1. Outside diameter shall conform with ductile-iron pipe.
  - 2. Pipe shall be pressure class 200, with a standard dimension ratio of DR 14.
  - 3. Pipe shall have plain end and elastomeric-gasket bell ends.
  - 4. Fittings shall conform to AWWA C110, or C153 and have mechanical joints. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104.
- C. Ultra Blue IPS: PVCO pressure pipe 6-inch to 12-inch shall be manufactured from a Rigid Poly (Vinyl Chloride) compound in accordance with ASTM F1483 and shall conform to the following requirements.
  - 1. Outside diameter shall conform to iron pipe size.
  - 2. Pipe shall be pressure-rating 200.
  - 3. Pipe shall have an integral elastomeric-gasket bell end. The gasketed joint system shall conform to ASTM D3139.
  - 4. Fittings shall conform to AWWA C110 or C153 and have mechanical joints. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104. Cast Iron OD transition gaskets shall be used with MJ fittings.
- D. Pressure Rated: Pressure Rated (PR) PVC pipe 1-1/2-inch to 12-inch shall conform to ASTM D2241 and the following requirements:
  - 1. Pipe shall be pressure rated 200 with a standard dimension ratio of SDR 21.

2. Pipe shall have an integral elastomeric-gasket bell end. The joints and gaskets shall comply with ASTM D3139 and ASTM F477.
  3. Fittings for pipe 3-inch and larger shall conform to AWWA C110, or C153 and have mechanical joints with transition gaskets as required for the pipe outside diameter. Fittings shall be made of gray-iron or ductile-iron. Interior of fittings shall be cement-mortar lined with seal coat in accordance with AWWA C104.
- E. Schedule 40 & 80: Schedule 40 & 80 PVC pipe 1/2-inch to 12-inch shall conform to ASTM D1785 and the following requirements:
1. Outside diameter shall conform with iron pipe.
  2. Pipe shall be schedule 80.
  3. Pipe shall have an integral elastomeric-gasket bell end or solvent weld joints.
  4. Fittings for the pipe shall conform to ASTM D2466 or D2467 as appropriate for the pipe schedule.

## 2.03 POLYETHYLENE PRESSURE PIPE AND TUBING

- A. Polyethylene pressure pipe and tubing, 1/2-inch through 3-inch, shall conform to AWWA 901 and the following requirements:
1. The line shall be the size indicated on the Drawings and shall be polyethylene tubing.
  2. The line shall be made from material having standard PE code designation PE 3406.
  3. The line shall have a minimum pressure class of 160 psi with a dimension ratio (DR) of DR-9.

## 2.04 TAPPING SLEEVE

- A. Tapping Sleeve: Sleeves shall be 304 stainless steel, flanged for the tapping valve and manufactured for a working pressure of 150 psi. Sleeve shall have a full body 360-degree gasket. Sleeve shall have a 3/4-inch test plug. Bolts and nuts shall be stainless steel.

## 2.05 VALVES

- A. General: Valves shall meet the following requirements:
1. Size shall be as required for the pipe size and material as indicated on the Drawings and specified.
  2. Open by counterclockwise rotation.
  3. Provide an interior protective epoxy coating in accordance with AWWA C550 on ferrous surfaces in contact with the liquid.
  4. Components in contact with the liquid shall be in compliance with NSF 61.
  5. Standard system working pressure is 150 psi.
  6. Equip valves with a suitable means of operation.
  7. Ends shall be mechanical joint for underground location.

8. For buried valves over 5 feet deep, provide extension stems of cold rolled steel to bring the operating nut to within 2 feet of the ground surface. Extension stems shall also be provided as required for floor stands and to floor valve box.
  9. Provide valve accessories as required for proper valve operation for valve locations as indicated on the Drawings and as recommended by valve manufacturer.
  10. Similar valve types shall be of one manufacturer.
- B. Gate Valves, Resilient-Seated: Gate valves 3-inch to 20-inch shall conform to AWWA C509 for and to the following requirements:
1. O-ring stem seal on non-rising (NRS) stem valves.
  2. Valves shall be non-rising stem (NRS) with wrench nut for underground locations and Outside Screw and Yoke (OS&Y) with handwheel for above ground locations unless noted otherwise on the Drawings.
- C. Tapping Valves: Tapping valves shall conform to the specifications for the gate valves as indicated in this Section and the following:
1. Valve shall be specifically modified for the passage and clearance of the tapping machine cutter.
  2. The mating end to the tapping sleeve shall be raised male surface to provide true alignment to the sleeve and tapping machine. The valve shall of the same manufacturer as the tapping sleeve.
- D. Edgecombe County Water and Sewer District No. 3 has passed an Amendment that approves all valves to be manufactured by Clow Corporation.

## 2.06 VALVE BOXES

- A. Valve Box, Below Ground: Boxes shall be high strength cast iron of the screw or telescopic type. Box shall consist of a flare base section, center extension as required, and a top section with the word "WATER" cast in the cover. Length of box shall be such that full extension of box is not required at the depth of water main cover.
- B. Extension Stem (if necessary): Stem shall be sized so as to transmit full torque from the operating mechanism to the valve stem without binding, twisting, or bending. Stem shall be made from extra heavy steel pipe. Stem shall be complete with couplings for connection to valve and floor stand where required. When valve extension kits are used they must be as recommended by the valve manufacturer.

## 2.07 SERVICE VALVES AND FITTINGS

- A. Water service valves and fittings shall conform NSF 61 and AWWA C800 for normal pressure and the following requirements:
1. Service valves and fittings shall conform to Owner's standards. If Owner's standards conflicts with these specifications, consult with Engineer before proceeding.

2. Service saddle: Provide service saddle for service pipe connection to main pipe material. Saddles shall meet the following requirements:
  - a. Brass body to conform to the outside dimension of the main.
  - b. O-ring, Buna N rubber gasket to provide watertight connection.
  - c. Hinged, double bottom strap design.
  - e. Threaded outlet to match threads on corporation valve.
3. Corporation valve
  - a. Stop size shall be the same as service line.
  - b. Inlet thread shall be as per AWWA C800.
  - c. Outlet thread shall be as required for the pipe material specified.
4. Pressure reducing valve
  - a. Shall meet ASSE 1003.
  - b. Bronze body, renewable stainless steel seat.
  - c. Suitable for reducing from an inlet pressure range of 100 – 150 psi to an outlet pressure of 60 psi.
5. Meter boxes
  - a. Boxes and cover shall be cast iron
  - b. Minimum 18 inches deep.
  - c. Sized for required water meter.

## 2.08 FIRE HYDRANTS

- A. Fire hydrants shall conform to AWWA C502 and to the following requirements:
  1. Nozzles: Two (2) 2-1/2-inch hose and One (1) 4-1/2-inch pumper connections.
  2. Nozzle threads: National Fire Protection Association (NFPA) for National (American) Standard Fire Hose Coupling Screw Threads.
  3. Main valve diameter: 5-1/4- or 4-1/2 inch.
  4. Minimum depth of bury: 42-inches.
  5. Inlet connection: 6-inch mechanical joint.
  6. Open counterclockwise.
  7. Close with water pressure.
  8. O-ring seals
  9. Traffic model with frangible sections near the ground line designed to break on impact.
  10. Provide extension for hydrant standpipe as required to set centerline of hydrant nozzle a minimum of 15-inches and a maximum of 24-inches.
  11. Exterior color above ground line shall match Owners.
  12. All hydrants shall be of one manufacturer.

## 2.09 POST HYDRANTS

- A. Blow-offs for 4" and smaller water mains shall be constructed by use of iron bodied self draining, non-freezing post hydrants similar to fire hydrants except smaller and easily discernible from true fire hydrants due to their size and paint color. The post hydrant shall be equipped with at least a 2-3/16" valve opening with a mechanical joint base elbow of size equal to the branch piping to which it is connected. The barrel size shall be 3" with a 1-15/16" single nozzle (National Standard threads) and a tamper proof recessed pentagon operating nut.



Internal operating parts shall be of brass or stainless steel with the valve assembly removable by withdrawal through the hydrant barrel leaving the hydrant in place. Hydrant shall be designed so that no excavation or extension wrenches are required to accomplish valve removal. Hydrant shall be equipped with a traffic breakaway feature and shall receive thrust blocking and crushed stone at the shoe as shown on the details for hydrant installation. Exposed exterior surfaces shall be safety yellow to contrast with the coloration of fire hydrants. Post hydrants shall be Kupferle Foundry Company Eclipse No. 2 or equivalent item manufactured by American Flow Control or Mueller.

## 2.10 METERS

- A. Displacement Type Meters: Displacement type meters shall conform to AWWA C700 and to the following requirements:
1. Meter size shall be as indicated on the Drawings.
  2. Meter ends shall match pipe fittings.
  3. Provide magnetic drive with sealed gear housing.
  4. Totalizer shall have:
    - a. 4-inch dial reading in gallons
    - b. Six-digit totalizer
    - c. Must be capable of remote readout to match Owner's existing system.
  5. Meters and meter parts shall be manufactured, assembled, and tested within the United States. Meters shall be manufactured by Neptune T10 w/Prop Read which is compatible with the existing county's meter reading system.
  6. The meters shall contain a removable polypropylene strainer screen.
  7. All meters shall have meter lock installed with a standard bullet lock. The Contractor shall be required to provide to the Owner five (5) keys for every 100 locks.

## 2.11 REMOTE RADIO FREQUENCY ENCODER

Remote Radio Frequency (RF) Encoder Based Meter Data Acquisition System.

- A. Summary of Equipment: All new water meters whether customer or master meter type shall be equipped with devices which will provide meter identification and total gallons read to a vehicle mounted portable data acquisition unit (PDA). Meters shall be read by use of a vehicle mounted portable personal computer with a radio frequency transceiver capable of interrogating meters at a driveby of 30 mph and recording readings for later download to an office PC for billing reports. The data PDA will store the meter I.D. and total flow to date and readily download the data to a desktop computer which shall interpret the data to provide individual bills and summary reports as desired by the Owner. The equipment which shall be provided by the Contractor is summarized as follows:
1. Register - Each meter shall have a data interrogation compatible waterproof register capable of sending a signal with the meter identification to vehicle

mounted portable Data Acquisition Unit (PDA) by Radio Frequency transmission. The register shall not require batteries or external power but will provide a passive reading to the PDA via a meter box lid mounted meter interface unit (MIU). The register shall comply with the applicable provisions of AWWA C-707 and FCC Regulations with regards to submergence, environmental conditions, signal transmission assembly, and accuracy.

- B. Register - Encoder Type With Meter Interface Unit: The register shall direct mount to the meter main case with a bayonet style connection requiring no bolted connections removable for replacement with the meter in place in the field. The register shall be of the absolute encoding type. Pulse type output registers and registers requiring batteries are not acceptable. The register shall be equipped with encoded 6-digit odometer wheels reading in total gallons with an instantaneous sweep hand with a leak detection indicator on the dial face. Increments of at least tenths of gallons will be visible on the dial face and the units shall be clearly indicated on the face of the register. The register shall be hermetically sealed and compatible with flooded meter box service. The unit shall, in a digital format, simultaneously encode four or six digits of the meter reading for transmission to a meter interface unit for the purpose of transmitting total gallons used through a meter box lid mounted meter interface unit (MIU). Provision shall be made to provide terminal screws which are accessible for routine register change out in the field allowing hookup to an existing MIU. The terminals though accessible shall be water resistant and shall not cause damage to the meter register or MIU in the event of standing water in the meter box. The register shall also provide to the MIU reprogrammable ten-digit identification number. The digitally formatted data transmitted by the register shall incorporate a check sum character to verify correct information transmission and integrity. Data errors shall be noted and indicated by the reading equipment.
- C. Meter Interface Unit (MIU): Each meter shall be equipped with a Radio Frequency Drive-by Meter Interface Unit which shall be mounted by the contractor through the industry standard 1.8" diameter hole in the meter box lid. The unit shall be powered by a 5-year battery and the unit shall be so designed as to not require reprogramming should the battery discharge before its replacement. The unit shall be housed in a NEMA 4 enclosure incorporating a tamper resistant seal. The unit's operating temperature range shall be -22\_F to 149\_F. The MIU shall read the register output once every hour and transmit the data every 4 seconds by radio using the unlicensed frequencies of 902 MHz to 928 MHz in accordance with FCC part 15 regulations. The power output shall conform to FCC part 15.247 requirements and the range of the data transmission shall be at least 300 feet by line of sight.

## 2.12 THRUST BLOCKING

- A. Provide concrete thrust blocking in accordance with the detail on the Drawings.

## 2.13 DISINFECTANT

- A. The following products may be used as the disinfectant:
  - 1. Chlorine, liquid: AWWA B301.

2. Hypochlorite, calcium and sodium: AWWA B300.

#### 2.14 DETECTABLE MARKING TAPE

- A. A three-inch wide 0.5 millimeter thickness detectable marking tape shall be installed over all PVC pipelines. The top shall be clearly marked "water main" and shall be centered over the main twelve inches below finished grade. Any breaks in the tape shall be repaired in accordance with the manufacturer's recommendations.
- B. Tape shall be by Blackburn Manufacturing, Joseph G. Pollard Co., or Reef Industries Inc.

#### 2.15 TRACER WIRE

- A. Tracer wire shall be #12 wire.
- B. Splices in tracer wire are to be kept to a minimum and joined with copper split nuts of appropriate size.

### PART 3 EXECUTION

#### 3.1 GENERAL

- A. Pipe installation shall meet the following general guidelines:
  1. Lay pipe in the presence of Engineer, unless specifically approved otherwise.
  2. Handle pipe and accessories in accordance with manufacturer's recommendations. Take particular care not to damage pipe coatings.
  3. Carefully inspect pipe immediately prior to laying. Do not use defective pipe. Replace pipe damaged during construction.
  4. Lay pipe to grade and alignment indicated on the Drawings.
  5. Provide proper equipment for lowering pipe into trench.
  6. Do not lay pipe in water or when the trench or weather conditions are unsuitable for the work.
  7. Provide tight closure pipe ends when work is not in progress.
  8. Keep pipe interior free of foreign materials.
  9. Clean bell and spigots before joining. Make joints and lubricate gasket in accordance with pipe manufacturer recommendation.
  11. Disinfection of pipe during installation:
  12. Soak gaskets for minimum of one hour in a 50 - 100 ppm hypochlorite solution prior to installation.
  13. Mop bells and spigots of pipe, fittings and valves with a 50 - 100 ppm hypochlorite solution immediately prior to making joints.

14. Block fittings with concrete, or restrain as indicated on the Drawings or as required to prevent movement.

### 3.2 RELATION OF WATER MAINS TO SEWERS

- A. Lateral Separation: Lay water mains at least 10 feet laterally from existing and proposed sewers. Where existing conditions prevent a 10-foot lateral separation, the following shall be followed with approval of the Engineer:
  1. Lay water main in a separate trench, with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
  2. Lay water main in the same trench as the sewer with the water main located at one side on a bench of undisturbed earth, and with the elevation of the bottom of the water main at least 18 inches above the top of the sewer.
- B. Crossing Separation: Lay bottom of water main at least 18-inches above the top of the sewer. Where existing conditions prevent an 18-inch vertical separation, construct both the water main and sewer of ferrous materials and with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing.
- C. Crossing a Water Main Under a Sewer: When it is necessary for a water main to cross under a sewer, construct both the water main and the sewer of ferrous materials and with joints equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing.

### 3.3 WATER SERVICE

- A. Water service lines shall extend from the main distribution line to a meter box located at the right-of-way.
- B. All water service taps shall be made using a service saddle.
- C. Taps shall be located at 10 or 2 o'clock on the circumference of the pipe.
- D. Service taps shall be staggered, alternating from one side of the water main to the other and at least 12 inches apart.
- E. Taps on the same side of the main shall be a minimum of 24 inches apart.
- F. Install meter boxes and water service components so top of meter will be within 6 inches of the surface.
- G. Contractor will provide and install water meter as directed by Edgecombe County Water Department.
- H. The water meters to be installed within Speed corporate limits will be supplied by Edgecombe County Water Department. The contractor will be responsible

for installing the new water meters at the right-of-way for each service. The valve boxes and any components necessary to install the new water meters shall be supplied and installed by the contractor. The contractor will also supply and install a new water line from the newly installed water meter to each residence as directed by Edgecombe County Water Department. Old water meters and valves boxes will be removed and disposed of as directed by Edgecombe County Water Department. Contractor will be responsible for clean-up and returning private property to original condition.

### 3.4 DUCTILE IRON PIPE

- A. Install pipe in conformance with AWWA C600 and the following:
  - 1. For laying pipe in a vertical or horizontal curve, each full length pipe may be deflected by the following offset distance:
    - a. Push-on joint
      - i. 3 to 12-inch pipe: 14-inch offset
      - ii. 14 to 36-inch pipe: 8-inch offset
    - b. Mechanical joint
      - i. 3 to 6-inch pipe: 20-inch offset
      - ii. 8 to 12-inch pipe: 15-inch offset
      - iii. 14 to 20-inch pipe: 8-inch offset
      - iv. 24 to 36-inch pipe: 6-inch offset

### 3.5 PVC PRESSURE PIPE

- A. Install PVC C900 pipe in conformance with AWWA C605.
- B. Solvent Weld: Field cut ends shall be sanded to roughing the surface. Joints shall be cleaned of foreign material. Solvent shall be applied to the joint and joint made as recommended by the manufacturer. Excess solvent shall be wiped off. Joint should not be moved until sufficiently set up.
- C. Bell and Spigot Joints: Clean bell and spigot ends prior to jointing. Ends of field cut pipe shall be beveled with file. Gasket shall be clean and lightly lubricated. Joint shall be made as recommended by the manufacturer.

### 3.6 VALVES AND FITTINGS

- A. Install buried valves on firm foundation of crushed stone or concrete. Connection to pipe shall be such that there shall be no stress at the joint caused by misalignment or inadequate support of pipe or valve.
- B. Valve Box: Set a valve box over each buried valve. Support box so that no stress shall be transmitted to the valve or pipe line. Install box plumb and set top flush with finished grade. Operating nut shall be centered in box. Provide a 24-inch x 24-inch wide by 6-inch thick concrete pad at top of valve boxes outside paved areas.

- C. Valve operation nut shall be within 30 inches of the top of box. Provide stem extension if necessary to bring operating nut to within 30 inches of the top of box.
- D. Install fittings as recommended by the manufacturer. Fittings shall be blocked or otherwise restrained from movement.
- E. Install valves, gates, and accessories indicated on the Drawings and in complete accordance with the manufacturer's recommendations.
- F. Install air / vacuum valve inside a manhole.

### 3.7 METERS

- A. Install meter boxes and water service components so top of meter will be within 6 inches of the surface.
- B. The Contractor will install water meter.

### 3.8 HYDRANT

- A. Set hydrant in accordance with detail on Drawings.

### 3.9 PAINTING

- A. Equipment shall receive the manufacturer's standard coating for the intended application. Coatings shall be suitable for the intended application.
- B. Repaint damaged paint services.

### 3.10 TESTING

- A. Install and test Backflow prevention devices in accordance with the requirements of the local authority having jurisdiction.

### 3.11 PRESSURE TESTING

- A. Pressure test in accordance with AWWA C600 for ductile iron pipe and AWWA C605 and M23 for PVC pipe and as specified herein
- B. General:
  - 1. The Engineer shall approve the source, quality, and method of disposal of water to be used in test procedures.
  - 2. Obtain Owner's permission 48 hours prior to filling or flushing of pipe system with water from Owner's water system. Owner shall operate valves connected to the existing water system. Where large quantities of water may be required for flushing, Owner reserves the right to require that flushing be done at periods of low demand.
  - 3. Clean and flush pipe system of foreign matter prior to testing.

4. Provide air vents at the high points in the line section to be tested for releasing of air during filling. Service corporation stops may be used for air vent when located at a high point. Include cost of air vents in price of testing. Leave corporation stops in place after testing and note locations on As-Built Drawings.
5. Allow concrete blocking to reach design strength prior to pressure testing.
6. Test main prior to installation of service taps.
7. Repair defects in the pipe system. Make repairs to the same standard as specified for the pipe system.
8. Retest repaired sections until acceptance.
9. Repair visible leaks regardless of the test results.
10. Pipe sections shall not be accepted and placed into service until specified test limits have been met.

C. Testing

1. Notify Owner and Engineer a minimum of 48 hours prior to testing.
2. Perform tests in the presence of Engineer.
3. Make pressure tests between valves. Furnish suitable test plugs where line ends in "free flow."
4. Upon completing a section of pipe between valves, test pipe by maintaining for a two hour period a hydrostatic pressure of 150 psig.
5. Test pressure shall not vary by more than +/- 5 psi for the duration of the test.
6. No length of line shall be accepted if the leakage is greater than that determined by the following formula based on the appropriate test pressure:  

$$L = \text{Allowable leakage per 1,000 feet of pipe in gallons per hour.}$$

$$D = \text{Nominal diameter of the pipe in inches.}$$
  - a. 100 psi:  $L = D \times 0.07$
  - b. 150 psi:  $L = D \times 0.08$
  - c. 200 psi:  $L = D \times 0.09$
  - d. 250 psi:  $L = D \times 0.10$

3.12 DISINFECTION

- A. After satisfactory completion of the pressure test, disinfect new potable water mains and existing mains that have required repair in accordance with AWWA C651 and as specified herein. Disinfect water mains in a maximum length per day of 2,000 feet.
- B. General:
  1. Provide a superintendent experienced in the required procedures for disinfecting with chlorine.
  2. Obtain Owner's permission 48 hours prior to filling, flushing, and chlorinating of the water mains. Owner shall operate valves connected to the existing water system.
  3. Do not allow highly chlorinated water into the existing distribution system.
  4. If there is any question that the chlorinated discharge will cause damage to the environment, a reducing agent shall be applied to the water to neutralize the residual chlorine. Federal, state, or local environmental regulations may

require special provisions or permits prior to disposal of highly chlorinated water.

5. Perform disinfection and testing in presence of Engineer.
- C. Connection to Existing System: Notify Owner 48 hours prior to making connections to the existing system. Thoroughly clean the existing water main exterior prior to the installation of tapping sleeves and corporation stops. Lightly dust with calcium hypochlorite powder the water main exterior and the interior surface of the tapping sleeve, and corporation stops.
- D. After satisfactory flushing of the main, disinfect by the injection of a chlorine solution. Induce chlorine in sufficient quantity to maintain a chlorine residual of at least 50 ppm throughout the system to be tested. Maintain the chlorine solution in the system for at least 24 hours.
- E. Valves and Fire Hydrants: Open and close valves on the mains being disinfected a minimum of three times during the chlorine contact period and a minimum of three times during flushing. Fire hydrants and other appurtenances should receive special attention to insure proper disinfection.
- F. For Cut-In Construction: Use the following procedures for disinfecting of the new installation and the existing main at the cut-in point in accordance with AWWA C651, Section 9:
  1. Apply liberal quantities of hypochlorite, in the form of tablets, to the open trench.
  2. Interior of new pipe and fittings and the ends of the existing mains shall be swabbed or sprayed with a one percent hypochlorite solution before installation.
  3. Install a 2-inch tap downstream of the work area. Tap shall be used for blowing off the main. Or use the next fire hydrant downstream of the work area for blowing off the main.
  4. Install a 2-inch tap just upstream of the new installation. Control Water from the existing system so as to flow slowly into the work area during the application of chlorine. After the line is thoroughly flushed, add chlorine solution at a concentration of 100 ppm by the continuous feed method and hold in the main for one (1) hour.
- G. Prior to flushing, the free chlorine residual shall be a minimum of 10 ppm. Flushing of the lines shall proceed until the lines contain the normal chlorine residual of the system.
- H. Bacteriological and Chlorine Residual Sampling and Testing
  1. Test for free chlorine residual at required bacteriological test locations immediately after induction of highly chlorinated water and again after 24-hours, prior to flushing of the highly chlorinated water from the potable water system.
  2. Obtain two samples at each location specified after the chlorination procedure is completed, and prior to placing the system in service. Take the first sample immediately after flushing of the chlorinated water and again in



24-hours. A set of samples shall be taken as a minimum at the following locations:

- a. Every 1,200 lf
  - b. End of each main.
  - c. A minimum of one from each branch.
  - d. Mains at cut-in locations: Each side of work area. Time between samples to be determined by Engineer in field.
3. Recommended additional samples. During the required sampling of water from the new system, it is recommended that samples be taken from the existing potable water source to determine if coliforms are present.
  4. Care in sampling. No hose or fire hydrant shall be used for the collection of samples. Take samples from an approved sample tap consisting of a corporation stop installed in the main with a copper tube gooseneck assembly. Operation shall be such as to ensure that the sample collected is actually from water that has been in the new system.
  5. Test samples for the presence of coliform organisms in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater. Testing method used shall be either the multiple-tube fermentation technique or the membrane-filter technique.
  6. A laboratory certified for the required testing by the State of North Carolina shall perform testing.
  7. Test for odor. The water in the new system should also be tested to assure that no offensive odor exists due to chlorine reactions or excess chlorine residual.
  8. If samples show the presence of coliform, procedure 1 or 2 described below shall be followed, with the approval of the Owner, before placing the unit or facility in service.
    - a. Take repeat samples at least 24 hrs. apart until consecutive samples do not show the presence of coliform.
    - b. Again subject the system to chlorination and sampling as described in this section.
  9. If samples are free of coliform, and with the approval of the Owner, the potable water system may be placed in service.
- I. Contamination: If, in the opinion of the Engineer, possible contaminants have entered the existing water system, or water samples show the water in the existing system to be unsafe on completion of the work, the existing water system shall be disinfected as specified herein and shall include all contaminated components. Disinfection of the existing system shall be coordinated with the Owner.
- 3.13 VALVE OPERATION
- A. Prior to final acceptance provide competent personnel to operate each valve in presence of Engineer. Verify that valves are left in the open position.
- 3.14 GRADING AND CLEAN-UP
- A. General:

1. Provide for testing and clean-up as soon as practicable, so these operations do not lag far behind the pipe installation. Perform preliminary clean-up and grading as soon as backfilling operations are complete.
2. All finished surfaces are to provide adequate drainage. The finished surface shall be reasonably smooth, compacted, free from irregular surface changes and comparable to the smoothness of the adjacent surfaces.
3. Surfaces shall be sloped to drain away from structures.
4. All existing grassed or seeded areas damaged by the Contractor shall be replaced with the same type of grass as the adjoining area without additional cost to the Owner. The Contractor at his option may seed such areas and maintain them until a satisfactory stand of grass is obtained or may sprig or sod the areas to obtain the same result. A repaired area shall be considered satisfactory when a stand of grass has been obtained and is growing vigorously. The Contractor shall provide lime and fertilizer as may be required and water for maintaining the areas until accepted by the Engineer.
5. Upon completion of backfilling operations, all excess earth, broken pavement, rock, shoring and other materials and debris resulting from the operations shall be removed from the work areas and disposed of by the Contractor. He shall find his own disposal areas and bear all costs arising from the disposal of this excess material and debris.

**B. Finish Grading and Cleanup**

1. Particular care shall be taken to cleanup lawns and residential yards and shoulders and ditches fronting lawns and residential yards during pipe installation.
2. The Contractor shall establish in all his crews a minimum standard of preliminary cleanup to occur at the time of excavation and backfill of the water main. This cleanup will be done concurrent with pipe installation and will be required of the crew performing the pipe installation. Crews which cannot or will not perform this minimum preliminary cleanup will be required to cease operation and leave the site. The Contractor will then provide an alternate crew with no claim for additional time or compensation therefore. The minimum preliminary cleanup shall consist of the following:
  - a. Backfill of the trench flush with surrounding grade and free from humps or holes or depressions which are larger than 10 square feet and deeper or higher than 8" at their deepest point.
  - b. Driveways with 90% Standard Proctor Compaction or better with stone in any soft yielding spots such that the drive is traversable by vehicular, bicycle and pedestrian traffic. The drive shall be free of dips and humps. Residents must be provided ingress and egress through drives with their vehicles as soon as backfill operations through the drive are complete. No resident will be

denied access with his vehicles overnight due to contract operations. This shall be the Contractor's responsibility.

- c. Original drainage patterns must be established as part of preliminary cleanup. All disturbed surfaces must be worked at the time of backfill until they drain. If the terrain is too wet to work the surfaces as required to drain them then pipelaying shall cease in the wet area. Small ponds smaller than 100 square feet after rainfalls events are to be expected occasionally prior to final cleanup and will not be cause to consider preliminary cleanup unsatisfactory.
  - d. Mailboxes shall be restored by the Contractor at their previous horizontal location and height. Contractor shall provide firmly compacted access by mail carrier vehicles to the mailbox including the use of stone if required.
  - e. Debris, rubble, rock, trash, packing materials, pipe, lubricants, stockpiles, trees, stumps, branches, and equipment must be removed by the Contractor.
  - f. Regulatory signs must be restored, holes near or in the roadway must be filled flush and soil or debris humps or ridges on or near the roadway must be removed by the Contractor immediately as they pose a safety hazard. It shall be the implicit duty of the Contractor to control and maintain site safety at all times without need of instruction to do so.
3. Final cleanup shall follow preliminary cleanup as soon as practical after pipeline construction. At the time of payment requests, final cleanup shall be within one mile of the current pipe laying operations for each crew. In addition, final cleanup must be completed any given road before the crew constructing the pipeline on that road can move to another road. Final cleanup includes all items required for a finished project including final grading, repair of roadways and drives and all testing and chlorination, service installation and punch list items for final acceptance of the water main suitable for final payment and the commencement of service installation.

---END OF SECTION---

**PROJECT SPECIAL PROVISIONS**  
**Utility Construction**

**Revise the 2012 Standard Specifications as follows:**

**Page 10-58, Sub-article 1036-1 General**

add the following sentence:

All materials in contact with potable water shall be in conformance with Section 1417 of the Safe Drinking Water Act.

**Page 15-1, Sub-article 1500-2 Cooperation with the Utility Owner, paragraph 2:**

add the following sentences:

The utility owner is the Edgecombe County Water and Sewer. The contact person is Steve Cobb and he can be reached by phone at 252-823-3848.

**Page 15-2, Sub-article 1500-9 Placing Pipelines into Service**

add the following sentence:

Obtain approval from the NCDENR-Public Water Supply Section prior to placing a new water line into service. Use backflow prevention assemblies for temporary connections to isolate new water lines from existing water line.

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization**

change the allowable leakage formula to:

$$W = LD\sqrt{P} \div 148,000$$

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization, sixth paragraph:**

Replace the paragraph with the following:

Sterilize water lines in accordance with Section 1003 of The Rules Governing Public Water supply and AWWA C651 Section 4.4.3, the Continuous Feed Method. Provide a chlorine solution with between 50 parts per million and 100 parts per million in the initial feed. If the chlorine level drops below 10 parts per million during a 24 hour period, then flush, refill with fresh chlorine solution, and repeat for 24 hours. Provide certified bacteriological and contaminant test results from a state-approved or state-certified laboratory. Operate all valves and controls to assure thorough sterilization.

**Page 15-6, Sub-article 1510-3 (B), Testing and Sterilization, seventh paragraph:**

delete the words “may be performed concurrently or consecutively.”  
and replace with “shall be performed consecutively.”

**Page 15-7, sub-article 1515-2 Materials,**

replace paragraph beginning “Double check valves...” with the following:

Double Check valves (DCV) and Reduced Pressure Zone principal (RPZ) backflow prevention assemblies shall be listed on the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research list of approved backflow devices.

**Page 15-7, Article 1510-4 MEASUREMENT AND PAYMENT,** add the following paragraph after line 7:

The quantity of *Ductile Iron Water Pipe Fittings* will be measured and paid per pound based on the published weights for ductile iron fittings, exclusive of the weights of any accessories, as listed in the “DI Fittings Weight Chart” located at the NCDOT Utilities web site. If the Contractor elects to use compact ductile iron water pipe fittings, measurement will be based on the weight of standard size ductile iron water pipe fittings. Any fitting not listed will be measured based on the published weights for ductile iron fittings listed in ANSI/AWWA C-110/A21.10. This is limited to pressure pipe 4 inches or larger.

**Page 15-7, Article 1510-4 MEASUREMENT AND PAYMENT,** add the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Ductile Iron Water Pipe Fittings	Pound

**Page 15-9, Article 1515-4 MEASUREMENT AND PAYMENT,** line 28, delete “fittings”.

**Page 15-13, Article 1520-4 MEASUREMENT AND PAYMENT,** add the following paragraph after line 2:

The quantity of *Ductile Iron Sewer Pipe Fittings* will be measured and paid per pound based on the published weights for ductile iron fittings, exclusive of the weights of any accessories, as listed in the “DI Fittings Weight Chart” located at the NCDOT Utilities web site. If the Contractor elects to use compact ductile iron sewer pipe fittings, measurement will be based on the weight of standard size ductile iron sewer pipe fittings. Any fitting not listed will be measured based on the published weights for ductile iron fittings listed in ANSI/AWWA C-110/A21.10. This is limited to pressure pipe 4 inches or larger.

**Page 15-13, Article 1510-4 MEASUREMENT AND PAYMENT,** add the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Ductile Iron Sewer Pipe Fittings	Pound

**Page 15-18, Section 1550 TRENCHLESS INSTALLATION OF UTILITIES:** Replace this section with the following:

## SECTION 1550 TRENCHLESS INSTALLATION OF UTILITIES

Error! Use the Home tab to apply Section Number Char to the text that you want to appear here.-

### 1 DESCRIPTION

Install pipe using a trenchless method. Pipe refers to the specified pipe, which may be the primary carrier pipe or an encasement pipe. Shoring means the earth support system used for installing the pipe. The terms for encasement, casing, encasement pipe and casing pipe are interchangeable.

An engineer licensed by the State of North Carolina shall design the method and certify the work will not damage the roadway above or endanger the roadway user.

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### 2 MATERIAL

Refer to Division 10.

Item	Section
Concrete	1000
Encasement Pipe	1540
Flowable Fill	1000-6
Structural Timber	1082
Structural Steel	1072
Treated Timber	1082-3

Use pipe joints that are modified to suit the installation method. Provide engineering calculations for piping and shoring. Submit material certifications and obtain approval from the Department's Engineer before installation.

Use steel or concrete liner plates. Steel tunnel liner plates shall meet Sections 16 and 25 in *AASHTO LRFD Bridge Design Specifications*. Concrete liner plates shall meet AASHTO specifications.

Drilling fluids consist of water, bentonite and polymer additives.

Other materials will be considered with adequate design and quality control.

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### 3 CONSTRUCTION METHODS

#### (A) General

Apply Section 1505 for excavation, trenching, pipe laying and backfill.

Install the pipe to the lines and grades shown in the plans. Use workers that are skilled in the method of construction. Construct with good workmanship by skilled workers along with proper safety precautions.

Locate ends of trenchless construction and pits beyond the vehicle recovery area of the roadway. The vehicle recovery area may be reduced using acceptable traffic control methods.

#### (B) Design

Contract plans will show a trenchless method including but not limited to length, profile and bore pit locations based on available information. The Contractor's design shall confirm this method is appropriate for the field conditions and for the specified pipe. Subsurface information in the vicinity of the trenchless installation may be available in accordance with Section 102-7.

Assess soil conditions expected during trenchless operations.

Design the method to minimize the vertical movement of the pipe or the completed roadway section. Use methods of construction and installation that will not disturb the soils outside of the immediate vicinity of the pipeline or pits.

Before construction, provide detailed plans for the method of installation certified by an engineer licensed by the State of North Carolina. Provide certified calculations demonstrating the method of installation as safe and of minimal risk. Provide certified calculations of the structural adequacy of all materials. The design shall meet *AASHTO LRFD Bridge Design Specifications*. An engineer licensed by the State of North Carolina shall certify changes or modifications to the designed method as needed for actual field conditions.

**(C) Water Control**

Provide groundwater control and removal as appropriate for the method of excavation and installation. Remove the groundwater using an engineered dewatering system provided in the design submittal. Keep surface waters out of the excavation and pits.

**(D) Shoring**

Provide temporary or permanent shoring, as needed. Provide temporary shoring to maintain the hole or pit excavation for the duration of the work. Casing pipe 24 inches and larger, tunnel liner, and shoring that is not certified for permanent use is considered temporary. Fill the annular space between the specified pipe and temporary shoring. Provide permanent shoring when desired or specified to maintain the open hole for an indefinite time. Permanent shoring requires certification of durability and a design life of 100+ years.

Fill all voids around the excavation and shoring with structural fill material as work progresses.

Either work continuously (24 hours/day and 7 days/week) on the operations from the time the excavation begins through the filling of voids or use an engineered system for shoring the excavation during work stoppage.

**(E) Pre-Construction Meeting**

The Contractor shall conduct a pre-construction meeting with the Department's Engineer to review the proposed method for installation of the pipe. Conduct the meeting at least 48 hours before beginning installation. The meeting shall consist of, but is not limited to:

- (1) Presentation of the construction methods for understanding by all involved,
- (2) Presentation of methods for filling any potential voids around the pipe,
- (3) Demonstrating that appropriate equipment and materials are on site,
- (4) Providing a progress schedule, and

(5) Demonstrating ability to react to failures or roadway settlement or heave.

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#### **4 TRENCHLESS METHODS**

##### **(A) Bore and Jack**

For bore holes up to 6 inches in diameter in stable ground, the hole may be augured and the pipe pushed or jacked through the cleaned out hole. For bore holes greater than 6 inches, provide continuous support of the hole by simultaneously jacking the pipe or casing into the hole.

Use equipment suitably sized and designed to simultaneously bore or drill the soil or rock while pushing or jacking pipe on a controlled grade. Position the cutter head within one diameter of the leading edge of the pipe. In cohesive, dense and dry soils and rock, position the cutter head in front of the leading edge. In non-cohesive or loose soils, position the cutter head inside the pipe.

Dry bore only, do not use jetting or wet boring methods. Use drilling fluids only on the outside of pipe for lubrication or hole stabilization.

Minimize over bore, match cutter diameter to the outside diameter of the encasement pipe. Limit overbore to the O.D. + 2 inches.

Provide steering controls as necessary to maintain line and grade.

If conditions allow and with the approval of the Engineer, the Contractor may elect to use the pipe ramming method in lieu of bore and jack. Payment for the pipe ramming method will be paid as bore and jack.

##### **(B) Directional Drilling**

For drilled holes up to 6 inches in diameter in stable ground, the hole may be drilled and reamed followed by pulling the pipe into the hole within 8 hours. For drilled holes greater than 6 inches, simultaneously pull the pipe or casing into the hole as reaming occurs

When under pavement or within a one horizontal to one vertical distance from pavement, maintain the depth of cover in Table 1550-1.

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#### **DEPTH OF COVER FOR DIRECTIONAL DRILLING**

<b>Drilled Hole Diameter</b>	<b>Minimum Depth of Cover</b>
2" to 6"	6 ft
> 6" to 15"	12 times the hole diameter
> 15" to 36"	15 ft

Begin bores at locations that allow transitioning the bore to meet the above depths.

Use drilling fluids as appropriate for the type soils. Pump drilling fluids only while drilling or reaming. Monitor flow rates to match the amount leaving the bore hole. Do not increase pressure or flow to free stuck drillheads, reamers or piping.



Limit drilled or reamed holes to 1.5 x O.D. for pipe 12 inches or less and O.D. + 6 inches for pipes larger than 12 inches.

### (C) Tunneling

Tunnel using hand mining, mechanical excavation, tunnel boring machine (TBM), microtunneling, or other accepted tunneling method. Use tunnel shields or fore poling along with benched excavation and breast boarding as appropriate for the field conditions. Alternatively, the Contractor's engineer may certify that the soils are self-supporting of the dead and live loads and design tunneling methods as appropriate.

Provide active support to the tunnel walls. Shore tunnel walls using liner plates, steel ribs with lagging or other engineered method or by jacking piping into place.

Limit over excavation to 2 inches larger than the liner or shield. Grout the external voids as work progresses and as specified by the Contractor's engineer.

### (D) Pipe Ramming

Use pipe ramming only where soils are homogeneous and free of rock, boulders, stumps and debris. Do not use in the vicinity of quick or liquefiable soils.

Steel bands 1/2 inch thick are allowed on the outside of the leading edge of the pipe or casing to oversize the hole to reduce friction. Steel bands 1/2 inch thick may be used on the inside to compact the spoil and to prevent plugging.

Install at the following minimum depth of cover.

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#### DEPTH OF COVER FOR PIPE RAMMING

Pipe or Casing Diameter	Minimum Depth of Cover
2" to 6"	4 ft
> 6" to 14"	6 pipe diameters
>14" to 72"	8 ft

Contain spoil within the casing during ramming. After completion, use compressed air or augers to remove the spoil. Clean the interior using a pig. Provide appropriate safety devices. Limit air pressure to less than the rating of the pipe or casing.

Use lubricants and surfactants as needed and ensure vibration induced consolidation of soils does not result in settlement greater than 0.02 feet.

### (E) Other Methods

Other methods will be considered on a case by case basis when thoroughly engineered.

### (F) Lubrication and Drilling Fluids

Use drilling fluids for lubrication. Do not use water alone.

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## 5 QUALITY CONTROL

The Contractor, at no cost to the Department, shall replace or repair damaged or defective installations. The method to be used shall be designed by the Contractor's engineer and approved by the Engineer.

**(A) Ground Movement**

Before excavation, establish control points for measuring vertical movement of the road at 10 feet intervals along the centerline and 10 feet each side of the pipeline. A land surveyor licensed in the State of North Carolina shall monitor these points daily until construction is complete.

Cease trenchless operations when measured movement exceeds 0.02 feet. Determine cause of settlement and repair as necessary. Modify trenchless methods as needed.

**(B) Leakage**

Limit leakage through tunnel walls to minor seepage. All leaks in pipes, casing or other permanent shoring shall be sealed.

**(C) Roundness**

Provide permanent shoring maintaining at least 95% of nominal diameter in all directions.

**(D) External Voids**

Fill all external voids greater than 2 inches high or 2 feet wide. Fill with flowable fill, grout or Class II or III select material.

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**6 MEASUREMENT AND PAYMENT**

*Directional Drilling of 10" HDPE* will be measured and paid in linear feet. Measurement will be made horizontally to the nearest tenth of a linear foot.

Measurement will be made along utility pipes with required trenchless installation. Payment for trenchless installation will be made as additional compensation for utility piping with contract pay items of the various sizes. No additional payment will be made for access pits or shoring required for the installation. Shoring required for the maintenance of traffic or the protection of building or other structures, on or off the right of way, shall be paid under *Temporary Shoring*. No payment will be made for abandoning defective installations.

Payment will be made under:

**Pay Item**

**Pay Unit**

Directional Drilling of 10" HDPE

Linear Foot

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Project Special Provisions

Structures

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DocuSigned by:  
*Buck Charles Hunt*  
2F15C83973BA4EC

NORTH CAROLINA  
PROFESSIONAL  
SEAL  
14091  
BUCK ENGINEER HUNT  
CHARLES HUNT

12/12/2017

**FALSEWORK AND FORMWORK****(4-5-12)****1.0 DESCRIPTION**

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term “temporary works” is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

**2.0 MATERIALS**

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

**3.0 DESIGN REQUIREMENTS****A. Working Drawings**

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints. Submit the number of copies as called for by the contract.

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When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders.

As an option for the Contractor, overhang falsework hangers may be uniformly spaced, at a maximum of 36 inches, provided the following conditions are met:

Member Type (PCG)	Member Depth, (inches)	Max. Overhang Width, (inches)	Max. Slab Edge Thickness, (inches)	Max. Screed Wheel Weight, (lbs.)	Bracket Min. Vertical Leg Extension, (inches)
II	36	39	14	2000	26
III	45	42	14	2000	35
IV	54	45	14	2000	44
MBT	63	51	12	2000	50
MBT	72	55	12	1700	48

Overhang width is measured from the centerline of the girder to the edge of the deck slab.

For Type II, III & IV prestressed concrete girders (PCG), 45-degree cast-in-place half hangers and rods must have a minimum safe working load of 6,000 lbs.

For MBT prestressed concrete girders, 45-degree angle holes for falsework hanger rods shall be cast through the girder top flange and located, measuring along the top of the member, 1'-2 1/2" from the edge of the top flange. Hanger hardware and rods must have a minimum safe working load of 6,000 lbs.

The overhang bracket provided for the diagonal leg shall have a minimum safe working load of 3,750 lbs. The vertical leg of the bracket shall extend to the point that the heel bears on the girder bottom flange, no closer than 4 inches from the bottom of the member. However, for 72-inch members, the heel of the bracket shall bear on the web, near the bottom flange transition.

Provide adequate overhang falsework and determine the appropriate adjustments for deck geometry, equipment, casting procedures and casting conditions.

If the optional overhang falsework spacing is used, indicate this on the falsework submittal and advise the girder producer of the proposed details. Failure to notify the Engineer of hanger type and hanger spacing on prestressed concrete girder casting drawings may delay the approval of those drawings.

Falsework hangers that support concentrated loads and are installed at the edge of thin top flange concrete girders (such as bulb tee girders) shall be spaced so as not to exceed 75% of the manufacturer's stated safe working load. Use of dual leg hangers (such as Meadow Burke HF-42 and HF-43) are not allowed on concrete girders with thin top flanges. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

When staged construction of the bridge deck is required, detail falsework and forms for screed and fluid concrete loads to be independent of any previous deck pour components when the mid-span girder deflection due to deck weight is greater than  $\frac{3}{4}$ ".

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize or metalize these devices. Electroplating will not be allowed. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.

Design falsework and formwork requiring submittals in accordance with the 1995 AASHTO *Guide Design Specifications for Bridge Temporary Works* except as noted herein.

#### 1. Wind Loads

Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph. In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

**Table 2.2 - Wind Pressure Values**

Height Zone feet above ground	Pressure, lb/ft <sup>2</sup> for Indicated Wind Velocity, mph				
	70	80	90	100	110
0 to 30	15	20	25	30	35
30 to 50	20	25	30	35	40
50 to 100	25	30	35	40	45
over 100	30	35	40	45	50

#### 2. Time of Removal

The following requirements replace those of Article 3.4.8.2.

Do not remove forms until the concrete has attained strengths required in Article 420-16 of the Standard Specifications and these Special Provisions.

Do not remove forms until the concrete has sufficient strength to prevent damage to the surface.

**Table 2.2A - Steady State Maximum Wind Speeds by Counties in North Carolina**

COUNTY	25 YR (mph)	COUNTY	25 YR (mph)	COUNTY	25 YR (mph)
Alamance	70	Franklin	70	Pamlico	100
Alexander	70	Gaston	70	Pasquotank	100
Alleghany	70	Gates	90	Pender	100
Anson	70	Graham	80	Perquimans	100
Ashe	70	Granville	70	Person	70
Avery	70	Greene	80	Pitt	90
Beaufort	100	Guilford	70	Polk	80
Bertie	90	Halifax	80	Randolph	70
Bladen	90	Harnett	70	Richmond	70
Brunswick	100	Haywood	80	Robeson	80
Buncombe	80	Henderson	80	Rockingham	70
Burke	70	Hertford	90	Rowan	70
Cabarrus	70	Hoke	70	Rutherford	70
Caldwell	70	Hyde	110	Sampson	90
Camden	100	Iredell	70	Scotland	70
Carteret	110	Jackson	80	Stanley	70
Caswell	70	Johnston	80	Stokes	70
Catawba	70	Jones	100	Surry	70
Cherokee	80	Lee	70	Swain	80
Chatham	70	Lenoir	90	Transylvania	80
Chowan	90	Lincoln	70	Tyrell	100
Clay	80	Macon	80	Union	70
Cleveland	70	Madison	80	Vance	70
Columbus	90	Martin	90	Wake	70
Craven	100	McDowell	70	Warren	70
Cumberland	80	Mecklenburg	70	Washington	100
Currituck	100	Mitchell	70	Watauga	70
Dare	110	Montgomery	70	Wayne	80
Davidson	70	Moore	70	Wilkes	70
Davie	70	Nash	80	Wilson	80
Duplin	90	New Hanover	100	Yadkin	70
Durham	70	Northampton	80	Yancey	70
Edgecombe	80	Onslow	100		
Forsyth	70	Orange	70		



**B. Review and Approval**

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

**4.0 CONSTRUCTION REQUIREMENTS**

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch. For cast-in-place concrete structures, make sure that the calculated deflection of falsework flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

**A. Maintenance and Inspection**

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

**B. Foundations**

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

**5.0 REMOVAL**

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.

Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

**6.0 METHOD OF MEASUREMENT**

Unless otherwise specified, temporary works will not be directly measured.

**7.0 BASIS OF PAYMENT**

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

**SUBMITTAL OF WORKING DRAWINGS****(6-28-17)****1.0 GENERAL**

Submit working drawings in accordance with Article 105-2 of the *Standard Specifications* and this provision. For this provision, “submittals” refers to only those listed in this provision. The list of submittals contained herein does not represent a list of required submittals for the project. Submittals are only necessary for those items as required by the

contract. Make submittals that are not specifically noted in this provision directly to the Engineer. Either the Structures Management Unit or the Geotechnical Engineering Unit or both units will jointly review submittals.

If a submittal contains variations from plan details or specifications or significantly affects project cost, field construction or operations, discuss the submittal with and submit all copies to the Engineer. State the reason for the proposed variation in the submittal. To minimize review time, make sure all submittals are complete when initially submitted. Provide a contact name and information with each submittal. Direct any questions regarding submittal requirements to the Engineer, Structures Management Unit contacts or the Geotechnical Engineering Unit contacts noted below.

In order to facilitate in-plant inspection by NCDOT and approval of working drawings, provide the name, address and telephone number of the facility where fabrication will actually be done if different than shown on the title block of the submitted working drawings. This includes, but is not limited to, precast concrete items, prestressed concrete items and fabricated steel or aluminum items.

## **2.0 ADDRESSES AND CONTACTS**

For submittals to the Structures Management Unit, use the following addresses:

Via US mail:

Mr. B. C. Hanks, P. E.  
State Structures Engineer  
North Carolina Department  
of Transportation  
Structures Management Unit  
1581 Mail Service Center  
Raleigh, NC 27699-1581

Attention: Mr. J. L. Bolden, P. E.

Via other delivery service:

Mr. B. C. Hanks, P. E.  
State Structures Engineer  
North Carolina Department  
of Transportation  
Structures Management Unit  
1000 Birch Ridge Drive  
Raleigh, NC 27610

Attention: Mr. J. L. Bolden, P. E.

Submittals may also be made via email.

Send submittals to:

[jlbolden@ncdot.gov](mailto:jlbolden@ncdot.gov) (James Bolden)

Send an additional e-copy of the submittal to the following address:

[eomile@ncdot.gov](mailto:eomile@ncdot.gov) (Emmanuel Omile)

[mrorie@ncdot.gov](mailto:mrorie@ncdot.gov) (Madonna Rorie)

For submittals to the Geotechnical Engineering Unit, use the following addresses:

For projects in Divisions 1-7, use the following Eastern Regional Office address:

Via US mail:

Mr. Chris Kreider, P. E.

Via other delivery service:

Mr. Chris Kreider, P. E.

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Edgecombe County

Eastern Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Eastern Regional Office  
1570 Mail Service Center  
Raleigh, NC 27699-1570

Eastern Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Eastern Regional Office  
3301 Jones Sausage Road, Suite 100  
Garner, NC 27529

Via Email: [EastGeotechnicalSubmittal@ncdot.gov](mailto:EastGeotechnicalSubmittal@ncdot.gov)

For projects in Divisions 8-14, use the following Western Regional Office address:

Via US mail or other delivery service:

Mr. Eric Williams, P. E.  
Western Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Western Regional Office  
5253 Z Max Boulevard  
Harrisburg, NC 28075

Via Email: [WestGeotechnicalSubmittal@ncdot.gov](mailto:WestGeotechnicalSubmittal@ncdot.gov)

The status of the review of structure-related submittals sent to the Structures Management Unit can be viewed from the Unit's website, via the "Drawing Submittal Status" link.

The status of the review of geotechnical-related submittals sent to the Geotechnical Engineering Unit can be viewed from the Unit's website, via the "Geotechnical Construction Submittals" link.

Direct any questions concerning submittal review status, review comments or drawing markups to the following contacts:

Primary Structures Contact:

(919) 707 – 6408

James Bolden

(919)

250 – 4082 facsimile

[jlbolden@ncdot.gov](mailto:jlbolden@ncdot.gov)

Secondary Structures Contacts:  
6451

Emmanuel Omile

(919) 707 –

Madonna Rorie

(919) 707 –

6508

Eastern Regional Geotechnical Contact (Divisions 1-7):

662 – 4710

Chris Kreider

(919)

[ckreider@ncdot.gov](mailto:ckreider@ncdot.gov)

Western Regional Geotechnical Contact (Divisions 8-14):

8902

Eric Williams

(704) 455 –

[ewilliams3@ncdot.gov](mailto:ewilliams3@ncdot.gov)**3.0 SUBMITTAL COPIES**

Furnish one complete copy of each submittal, including all attachments, to the Engineer. At the same time, submit the number of hard copies shown below of the same complete submittal directly to the Structures Management Unit and/or the Geotechnical Engineering Unit.

The first table below covers “Structure Submittals”. The Engineer will receive review comments and drawing markups for these submittals from the Structures Management Unit. The second table in this section covers “Geotechnical Submittals”. The Engineer will receive review comments and drawing markups for these submittals from the Geotechnical Engineering Unit.

Unless otherwise required, submit one set of supporting calculations to either the Structures Management Unit or the Geotechnical Engineering Unit unless both units require submittal copies in which case submit a set of supporting calculations to each unit. Provide additional copies of any submittal as directed.

**STRUCTURE SUBMITTALS**

<b>Submittal</b>	<b>Copies Required by Structures Management Unit</b>	<b>Copies Required by Geotechnical Engineering Unit</b>	<b>Contract Reference Requiring Submittal <sup>1</sup></b>
Arch Culvert Falsework	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Box Culvert Falsework <sup>7</sup>	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Cofferdams	6	2	Article 410-4
Foam Joint Seals <sup>6</sup>	9	0	“Foam Joint Seals”

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Expansion Joint Seals (hold down plate type with base angle)	9	0	“Expansion Joint Seals”
Expansion Joint Seals (modular)	2, then 9	0	“Modular Expansion Joint Seals”
Expansion Joint Seals (strip seals)	9	0	“Strip Seals”
Falsework & Forms <sup>2</sup> (substructure)	8	0	Article 420-3 & “Falsework and Formwork”
Falsework & Forms (superstructure)	8	0	Article 420-3 & “Falsework and Formwork”
Girder Erection over Railroad	5	0	Railroad Provisions
Maintenance and Protection of Traffic Beneath Proposed Structure	8	0	“Maintenance and Protection of Traffic Beneath Proposed Structure at Station ____”
Metal Bridge Railing	8	0	Plan Note
Metal Stay-in-Place Forms	8	0	Article 420-3
Metalwork for Elastomeric Bearings <sup>4,5</sup>	7	0	Article 1072-8
Miscellaneous Metalwork <sup>4,5</sup>	7	0	Article 1072-8
Disc Bearings <sup>4</sup>	8	0	“Disc Bearings”
Overhead and Digital Message Signs (DMS) (metalwork and foundations)	13	0	Applicable Provisions
Placement of Equipment on Structures (cranes, etc.)	7	0	Article 420-20
Precast Concrete Box Culverts	2, then 1 reproducible	0	“Optional Precast Reinforced Concrete Box Culvert at Station ____”
Prestressed Concrete Cored Slab (detensioning sequences) <sup>3</sup>	6	0	Article 1078-11
Prestressed Concrete Deck Panels	6 and 1 reproducible	0	Article 420-3

**ST-13**

17BP.4.R.78

Edgecombe County

Prestressed Concrete Girder (strand elongation and detensioning sequences)	6	0	Articles 1078-8 and 1078-11
Removal of Existing Structure over Railroad	5	0	Railroad Provisions
Revised Bridge Deck Plans (adaptation to prestressed deck panels)	2, then 1 reproducible	0	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	2, then 1 reproducible	0	“Modular Expansion Joint Seals”
Sound Barrier Wall (precast items)	10	0	Article 1077-2 & “Sound Barrier Wall”
Sound Barrier Wall Steel Fabrication Plans <sup>5</sup>	7	0	Article 1072-8 & “Sound Barrier Wall”
Structural Steel <sup>4</sup>	2, then 7	0	Article 1072-8
Temporary Detour Structures	10	2	Article 400-3 & “Construction, Maintenance and Removal of Temporary Structure at Station _____”
TFE Expansion Bearings <sup>4</sup>	8	0	Article 1072-8

**FOOTNOTES**

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Articles refer to the *Standard Specifications*.
2. Submittals for these items are necessary only when required by a note on plans.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer or the Materials & Tests Unit.
4. The fabricator may submit these items directly to the Structures Management Unit.
5. The two sets of preliminary submittals required by Article 1072-8 of the *Standard Specifications* are not required for these items.
6. Submittals for Fabrication Drawings are not required. Submittals for Catalogue Cuts of Proposed Material are required. See Section 5.A of the referenced provision.
7. Submittals are necessary only when the top slab thickness is 18” or greater.

**GEOTECHNICAL SUBMITTALS**

<b>Submittal</b>	<b>Copies Required by Geotechnical Engineering Unit</b>	<b>Copies Required by Structures Management Unit</b>	<b>Contract Reference Requiring Submittal <sup>1</sup></b>
Drilled Pier Construction Plans <sup>2</sup>	1	0	Subarticle 411-3(A)
Crosshole Sonic Logging (CSL) Reports <sup>2</sup>	1	0	Subarticle 411-5(A)(2)
Pile Driving Equipment Data Forms <sup>2,3</sup>	1	0	Subarticle 450-3(D)(2)
Pile Driving Analyzer (PDA) Reports <sup>2</sup>	1	0	Subarticle 450-3(F)(3)
Retaining Walls <sup>4</sup>	1 drawings, 1 calculations	2 drawings	Applicable Provisions
Temporary Shoring <sup>4</sup>	1 drawings, 1 calculations	2 drawings	“Temporary Shoring” & “Temporary Soil Nail Walls”

**FOOTNOTES**

- References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Subarticles refer to the *Standard Specifications*.
- Submit one hard copy of submittal to the Engineer. Submit a second copy of submittal electronically (PDF via email), US mail or other delivery service to the appropriate Geotechnical Engineering Unit regional office. Electronic submission is preferred.
- The Pile Driving Equipment Data Form is available from:  
[https://connect.ncdot.gov/resources/Geological/Pages/Geotech\\_Forms\\_Details.aspx](https://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx)  
See second page of form for submittal instructions.

Electronic copy of submittal is required. See referenced provision.

**CRANE SAFETY****(8-15-05)**

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental



companies shall comply with the current Occupational Safety and Health Administration regulations (OSHA).

Submit all items listed below to the Engineer prior to beginning crane operations involving critical lifts. A critical lift is defined as any lift that exceeds 75 percent of the manufacturer's crane chart capacity for the radius at which the load will be lifted or requires the use of more than one crane. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

#### **CRANE SAFETY SUBMITTAL LIST**

- A. **Competent Person:** Provide the name and qualifications of the "Competent Person" responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.
- B. **Riggers:** Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.
- C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.
- D. **Certifications:** By July 1, 2006, crane operators performing critical lifts shall be certified by NC CCO (National Commission for the Certification of Crane Operators), or satisfactorily complete the Carolinas AGC's Professional Crane Operator's Proficiency Program. Other approved nationally accredited programs will be considered upon request. All crane operators shall also have a current CDL medical card. Submit a list of anticipated critical lifts and corresponding crane operator(s). Include current certification for the type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

#### **GROUT FOR STRUCTURES**

(12-1-17)

##### **1.0 DESCRIPTION**

This special provision addresses grout for use in pile blockouts, grout pockets, shear keys, dowel holes and recesses for structures. This provision does not apply to grout placed in post-tensioning ducts for bridge beams, girders, decks, end bent caps, or bent caps. Mix and place grout in accordance with the manufacturer's recommendations, the applicable sections of the Standard Specifications and this provision.

##### **2.0 MATERIAL REQUIREMENTS**

Unless otherwise noted on the plans, use a Type 3 Grout in accordance with Section 1003 of the Standard Specifications.

Initial setting time shall not be less than 10 minutes when tested in accordance with ASTM C266.

Construction loading and traffic loading shall not be allowed until the 3 day compressive strength is achieved.

### **3.0 SAMPLING AND PLACEMENT**

Place and maintain components in final position until grout placement is complete and accepted. Concrete surfaces to receive grout shall be free of defective concrete, laitance, oil, grease and other foreign matter. Saturate concrete surfaces with clean water and remove excess water prior to placing grout.

### **4.0 BASIS OF PAYMENT**

No separate payment will be made for "Grout for Structures". The cost of the material, equipment, labor, placement, and any incidentals necessary to complete the work shall be considered incidental to the structure item requiring grout.

## **ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES**

**(12-30-15)**

### **1.0 INSPECTION FOR ASBESTOS CONTAINING MATERIAL**

Prior to conducting bridge demolition or renovation activities, the Contractor shall thoroughly inspect the bridge or affected components for the presence of asbestos containing material (ACM) using a firm prequalified by NCDOT to perform asbestos surveys. The inspection must be performed by a N.C. accredited asbestos inspector with experience inspecting bridges or other industrial structures. The N.C. accredited asbestos inspector must conduct a thorough inspection, identifying all asbestos-containing material as required by the Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants (NESHAP) Code of Federal Regulations (CFR) 40 CFR, Part 61, Subpart M.

The Contractor shall submit an inspection report to the Engineer, which at a minimum must include information required in 40 CFR 763.85 (a)(4) vi)(A)-(E), as well as a project location map, photos of existing structure, the date of inspection and the name, N.C. accreditation number, and signature of the N.C. accredited asbestos inspector who performed the inspection and completed the report. The cover sheet of the report shall include project identification information. Place the following notes on the cover sheet of the report and check the appropriate box:

\_\_\_ ACM was found

\_\_\_ ACM was not found

**2.0 REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL**

If ACM is found, notify the Engineer. Compensation for removal and disposal of ACM is considered extra work in accordance with Article 104-7 of the Standard Specifications.

An Asbestos Removal Permit must be obtained from the Health Hazards Control Unit (HHCU) of the N.C. Department of Health & Human Services, Division of Public Health, if more than 35 cubic feet, 160 square feet, or 260 linear feet of regulated ACM (RACM) is to be removed from a structure and this work must be completed by a contractor prequalified by NCDOT to perform asbestos abatement. RACM is defined in 40 CFR, Part 61, Subpart M. Note: 40 CFR 763.85 (a)(4) vi)(D) defines ACM as surfacing, TSI and Miscellaneous which does not meet the NESHAP RACM.

**3.0 DEMOLITION NOTIFICATION**

Even if no ACM is found (or if quantities are less than those required for a permit), a Demolition Notification (DHHS-3768) must be submitted to the HHCU. Notifications and Asbestos Permit applications require an original signature and must be submitted to the HHCU 10 working days prior to beginning demolition activities. The 10 working day period starts based on the post-marked date or date of hand delivery. Demolition that does not begin as originally notified requires submission of a separate revision form HHCU 3768-R to HHCU. Reference the North Carolina Administrative Code, Chapter 10A, Subchapter 41C, Article .0605 for directives on revision submissions.

Contact Information

Health Hazards Control Unit (HHCU)  
N.C. Department of Health and Human Services  
1912 Mail Service Center  
Raleigh, NC 27699-1912  
Telephone: (919) 707-5950  
Fax: (919) 870-4808

**4.0 SPECIAL CONSIDERATIONS**

Buncombe, Forsyth, and Mecklenburg counties also have asbestos permitting and NESHAP requirements must be followed. For projects involving permitted RACM removals, both the applicable county and the state (HHCU) must be notified.

For demolitions with no RACM, only the local environmental agencies must be notified. Contact information is as follows:

Buncombe County

WNC Regional Air Pollution Control Agency  
49 Mt. Carmel Road  
Asheville, NC 28806  
(828) 250-6777

Forsyth County

Environmental Affairs Department  
537 N. Spruce Street  
Winston-Salem, NC 27101  
(336) 703-2440

Mecklenburg County

Land Use and Environmental Services Agency  
Mecklenburg Air Quality  
700 N. Tryon Street  
Charlotte, NC 28202  
(704) 336-5430

**5.0 ADDITIONAL INFORMATION**

Additional information may be found on N.C. asbestos rules, regulations, procedures and N.C. accredited inspectors, as well as associated forms for demolition notifications and asbestos permit applications at the N.C. Asbestos Hazard Management Program website:

[www.epi.state.nc.us/epi/asbestos/ahmp.html](http://www.epi.state.nc.us/epi/asbestos/ahmp.html)

**6.0 BASIS OF PAYMENT**

Payment for the work required in this provision will be at the lump sum contract unit price for “Asbestos Assessment”. Such payment will be full compensation for all asbestos inspections, reports, permitting and notifications.

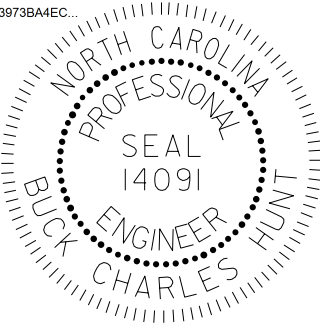
Project Special Provisions

Structures

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DocuSigned by:  
*Buck Charles Hunt*  
2F15C83973BA4EC...



12/12/2017



1223 Jones Franklin Rd.  
Raleigh, NC 27606  
License No. F-0377

**FALSEWORK AND FORMWORK****(4-5-12)****1.0 DESCRIPTION**

Use this Special Provision as a guide to develop temporary works submittals required by the Standard Specifications or other provisions; no additional submittals are required herein. Such temporary works include, but are not limited to, falsework and formwork.

Falsework is any temporary construction used to support the permanent structure until it becomes self-supporting. Formwork is the temporary structure or mold used to retain plastic or fluid concrete in its designated shape until it hardens. Access scaffolding is a temporary structure that functions as a work platform that supports construction personnel, materials, and tools, but is not intended to support the structure. Scaffolding systems that are used to temporarily support permanent structures (as opposed to functioning as work platforms) are considered to be falsework under the definitions given. Shoring is a component of falsework such as horizontal, vertical, or inclined support members. Where the term “temporary works” is used, it includes all of the temporary facilities used in bridge construction that do not become part of the permanent structure.

Design and construct safe and adequate temporary works that will support all loads imposed and provide the necessary rigidity to achieve the lines and grades shown on the plans in the final structure.

**2.0 MATERIALS**

Select materials suitable for temporary works; however, select materials that also ensure the safety and quality required by the design assumptions. The Engineer has authority to reject material on the basis of its condition, inappropriate use, safety, or nonconformance with the plans. Clearly identify allowable loads or stresses for all materials or manufactured devices on the plans. Revise the plan and notify the Engineer if any change to materials or material strengths is required.

**3.0 DESIGN REQUIREMENTS****A. Working Drawings**

Provide working drawings for items as specified in the contract, or as required by the Engineer, with design calculations and supporting data in sufficient detail to permit a structural and safety review of the proposed design of the temporary work.

On the drawings, show all information necessary to allow the design of any component to be checked independently as determined by the Engineer.

When concrete placement is involved, include data such as the drawings of proposed sequence, rate of placement, direction of placement, and location of all construction joints. Submit the number of copies as called for by the contract.

When required, have the drawings and calculations prepared under the guidance of, and sealed by, a North Carolina Registered Professional Engineer who is knowledgeable in temporary works design.

If requested by the Engineer, submit with the working drawings manufacturer's catalog data listing the weight of all construction equipment that will be supported on the temporary work. Show anticipated total settlements and/or deflections of falsework and forms on the working drawings. Include falsework footing settlements, joint take-up, and deflection of beams or girders.

As an option for the Contractor, overhang falsework hangers may be uniformly spaced, at a maximum of 36 inches, provided the following conditions are met:

Member Type (PCG)	Member Depth, (inches)	Max. Overhang Width, (inches)	Max. Slab Edge Thickness, (inches)	Max. Screed Wheel Weight, (lbs.)	Bracket Min. Vertical Leg Extension, (inches)
II	36	39	14	2000	26
III	45	42	14	2000	35
IV	54	45	14	2000	44
MBT	63	51	12	2000	50
MBT	72	55	12	1700	48

Overhang width is measured from the centerline of the girder to the edge of the deck slab.

For Type II, III & IV prestressed concrete girders (PCG), 45-degree cast-in-place half hangers and rods must have a minimum safe working load of 6,000 lbs.

For MBT prestressed concrete girders, 45-degree angle holes for falsework hanger rods shall be cast through the girder top flange and located, measuring along the top of the member, 1'-2 1/2" from the edge of the top flange. Hanger hardware and rods must have a minimum safe working load of 6,000 lbs.

The overhang bracket provided for the diagonal leg shall have a minimum safe working load of 3,750 lbs. The vertical leg of the bracket shall extend to the point that the heel bears on the girder bottom flange, no closer than 4 inches from the bottom of the member. However, for 72-inch members, the heel of the bracket shall bear on the web, near the bottom flange transition.

Provide adequate overhang falsework and determine the appropriate adjustments for deck geometry, equipment, casting procedures and casting conditions.

If the optional overhang falsework spacing is used, indicate this on the falsework submittal and advise the girder producer of the proposed details. Failure to notify the Engineer of hanger type and hanger spacing on prestressed concrete girder casting drawings may delay the approval of those drawings.

Falsework hangers that support concentrated loads and are installed at the edge of thin top flange concrete girders (such as bulb tee girders) shall be spaced so as not to exceed 75% of the manufacturer's stated safe working load. Use of dual leg hangers (such as Meadow Burke HF-42 and HF-43) are not allowed on concrete girders with thin top flanges. Design the falsework and forms supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete.

When staged construction of the bridge deck is required, detail falsework and forms for screed and fluid concrete loads to be independent of any previous deck pour components when the mid-span girder deflection due to deck weight is greater than  $\frac{3}{4}$ ".

Note on the working drawings any anchorages, connectors, inserts, steel sleeves or other such devices used as part of the falsework or formwork that remains in the permanent structure. If the plan notes indicate that the structure contains the necessary corrosion protection required for a Corrosive Site, epoxy coat, galvanize or metalize these devices. Electroplating will not be allowed. Any coating required by the Engineer will be considered incidental to the various pay items requiring temporary works.



Design falsework and formwork requiring submittals in accordance with the 1995 AASHTO *Guide Design Specifications for Bridge Temporary Works* except as noted herein.

#### 1. Wind Loads

Table 2.2 of Article 2.2.5.1 is modified to include wind velocities up to 110 mph. In addition, Table 2.2A is included to provide the maximum wind speeds by county in North Carolina.

**Table 2.2 - Wind Pressure Values**

Height Zone feet above ground	Pressure, lb/ft <sup>2</sup> for Indicated Wind Velocity, mph				
	70	80	90	100	110
0 to 30	15	20	25	30	35
30 to 50	20	25	30	35	40
50 to 100	25	30	35	40	45
over 100	30	35	40	45	50

#### 2. Time of Removal

The following requirements replace those of Article 3.4.8.2.

Do not remove forms until the concrete has attained strengths required in Article 420-16 of the Standard Specifications and these Special Provisions.

Do not remove forms until the concrete has sufficient strength to prevent damage to the surface.

**Table 2.2A - Steady State Maximum Wind Speeds by Counties in North Carolina**

COUNTY	25 YR (mph)	COUNTY	25 YR (mph)	COUNTY	25 YR (mph)
Alamance	70	Franklin	70	Pamlico	100
Alexander	70	Gaston	70	Pasquotank	100
Alleghany	70	Gates	90	Pender	100
Anson	70	Graham	80	Perquimans	100
Ashe	70	Granville	70	Person	70
Avery	70	Greene	80	Pitt	90
Beaufort	100	Guilford	70	Polk	80
Bertie	90	Halifax	80	Randolph	70
Bladen	90	Harnett	70	Richmond	70
Brunswick	100	Haywood	80	Robeson	80
Buncombe	80	Henderson	80	Rockingham	70
Burke	70	Hertford	90	Rowan	70
Cabarrus	70	Hoke	70	Rutherford	70
Caldwell	70	Hyde	110	Sampson	90
Camden	100	Iredell	70	Scotland	70
Carteret	110	Jackson	80	Stanley	70
Caswell	70	Johnston	80	Stokes	70
Catawba	70	Jones	100	Surry	70
Cherokee	80	Lee	70	Swain	80
Chatham	70	Lenoir	90	Transylvania	80
Chowan	90	Lincoln	70	Tyrell	100
Clay	80	Macon	80	Union	70
Cleveland	70	Madison	80	Vance	70
Columbus	90	Martin	90	Wake	70
Craven	100	McDowell	70	Warren	70
Cumberland	80	Mecklenburg	70	Washington	100
Currituck	100	Mitchell	70	Watauga	70
Dare	110	Montgomery	70	Wayne	80
Davidson	70	Moore	70	Wilkes	70
Davie	70	Nash	80	Wilson	80
Duplin	90	New Hanover	100	Yadkin	70
Durham	70	Northampton	80	Yancey	70
Edgecombe	80	Onslow	100		
Forsyth	70	Orange	70		

**B. Review and Approval**

The Engineer is responsible for the review and approval of temporary works' drawings.

Submit the working drawings sufficiently in advance of proposed use to allow for their review, revision (if needed), and approval without delay to the work.

The time period for review of the working drawings does not begin until complete drawings and design calculations, when required, are received by the Engineer.

Do not start construction of any temporary work for which working drawings are required until the drawings have been approved. Such approval does not relieve the Contractor of the responsibility for the accuracy and adequacy of the working drawings.

**4.0 CONSTRUCTION REQUIREMENTS**

All requirements of Section 420 of the Standard Specifications apply.

Construct temporary works in conformance with the approved working drawings. Ensure that the quality of materials and workmanship employed is consistent with that assumed in the design of the temporary works. Do not weld falsework members to any portion of the permanent structure unless approved. Show any welding to the permanent structure on the approved construction drawings.

Provide tell-tales attached to the forms and extending to the ground, or other means, for accurate measurement of falsework settlement. Make sure that the anticipated compressive settlement and/or deflection of falsework does not exceed 1 inch. For cast-in-place concrete structures, make sure that the calculated deflection of falsework flexural members does not exceed 1/240 of their span regardless of whether or not the deflection is compensated by camber strips.

**A. Maintenance and Inspection**

Inspect and maintain the temporary work in an acceptable condition throughout the period of its use. Certify that the manufactured devices have been maintained in a condition to allow them to safely carry their rated loads. Clearly mark each piece so that its capacity can be readily determined at the job site.

Perform an in-depth inspection of an applicable portion(s) of the temporary works, in the presence of the Engineer, not more than 24 hours prior to the beginning of each concrete placement. Inspect other temporary works at least once a month to ensure that they are functioning properly. Have a North Carolina Registered Professional Engineer inspect the cofferdams, shoring, sheathing, support of excavation structures, and support systems for load tests prior to loading.

**B. Foundations**

Determine the safe bearing capacity of the foundation material on which the supports for temporary works rest. If required by the Engineer, conduct load tests to verify proposed bearing capacity values that are marginal or in other high-risk situations.

The use of the foundation support values shown on the contract plans of the permanent structure is permitted if the foundations are on the same level and on the same soil as those of the permanent structure.

Allow for adequate site drainage or soil protection to prevent soil saturation and washout of the soil supporting the temporary works supports.

If piles are used, the estimation of capacities and later confirmation during construction using standard procedures based on the driving characteristics of the pile is permitted. If preferred, use load tests to confirm the estimated capacities; or, if required by the Engineer conduct load tests to verify bearing capacity values that are marginal or in other high risk situations.

The Engineer reviews and approves the proposed pile and soil bearing capacities.

**5.0 REMOVAL**

Unless otherwise permitted, remove and keep all temporary works upon completion of the work. Do not disturb or otherwise damage the finished work.

Remove temporary works in conformance with the contract documents. Remove them in such a manner as to permit the structure to uniformly and gradually take the stresses due to its own weight.

**6.0 METHOD OF MEASUREMENT**

Unless otherwise specified, temporary works will not be directly measured.

**7.0 BASIS OF PAYMENT**

Payment at the contract unit prices for the various pay items requiring temporary works will be full compensation for the above falsework and formwork.

**SUBMITTAL OF WORKING DRAWINGS****(6-28-17)****1.0 GENERAL**

Submit working drawings in accordance with Article 105-2 of the *Standard Specifications* and this provision. For this provision, "submittals" refers to only those listed in this provision. The list of submittals contained herein does not represent a list of required submittals for the project. Submittals are only necessary for those items as required by the

contract. Make submittals that are not specifically noted in this provision directly to the Engineer. Either the Structures Management Unit or the Geotechnical Engineering Unit or both units will jointly review submittals.

If a submittal contains variations from plan details or specifications or significantly affects project cost, field construction or operations, discuss the submittal with and submit all copies to the Engineer. State the reason for the proposed variation in the submittal. To minimize review time, make sure all submittals are complete when initially submitted. Provide a contact name and information with each submittal. Direct any questions regarding submittal requirements to the Engineer, Structures Management Unit contacts or the Geotechnical Engineering Unit contacts noted below.

In order to facilitate in-plant inspection by NCDOT and approval of working drawings, provide the name, address and telephone number of the facility where fabrication will actually be done if different than shown on the title block of the submitted working drawings. This includes, but is not limited to, precast concrete items, prestressed concrete items and fabricated steel or aluminum items.

## **2.0 ADDRESSES AND CONTACTS**

For submittals to the Structures Management Unit, use the following addresses:

Via US mail:

Mr. B. C. Hanks, P. E.  
State Structures Engineer  
North Carolina Department  
of Transportation  
Structures Management Unit  
1581 Mail Service Center  
Raleigh, NC 27699-1581

Attention: Mr. J. L. Bolden, P. E.

Via other delivery service:

Mr. B. C. Hanks, P. E.  
State Structures Engineer  
North Carolina Department  
of Transportation  
Structures Management Unit  
1000 Birch Ridge Drive  
Raleigh, NC 27610

Attention: Mr. J. L. Bolden, P. E.

Submittals may also be made via email.

Send submittals to:

[jlbolden@ncdot.gov](mailto:jlbolden@ncdot.gov) (James Bolden)

Send an additional e-copy of the submittal to the following address:

[eomile@ncdot.gov](mailto:eomile@ncdot.gov) (Emmanuel Omile)

[mrorie@ncdot.gov](mailto:mrorie@ncdot.gov) (Madonna Rorie)

For submittals to the Geotechnical Engineering Unit, use the following addresses:

For projects in Divisions 1-7, use the following Eastern Regional Office address:

Via US mail:

Mr. Chris Kreider, P. E.

Via other delivery service:

Mr. Chris Kreider, P. E.

Eastern Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Eastern Regional Office  
1570 Mail Service Center  
Raleigh, NC 27699-1570

Eastern Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Eastern Regional Office  
3301 Jones Sausage Road, Suite 100  
Garner, NC 27529

Via Email: [EastGeotechnicalSubmittal@ncdot.gov](mailto:EastGeotechnicalSubmittal@ncdot.gov)

For projects in Divisions 8-14, use the following Western Regional Office address:

Via US mail or other delivery service:

Mr. Eric Williams, P. E.  
Western Regional Geotechnical  
Manager  
North Carolina Department  
of Transportation  
Geotechnical Engineering Unit  
Western Regional Office  
5253 Z Max Boulevard  
Harrisburg, NC 28075

Via Email: [WestGeotechnicalSubmittal@ncdot.gov](mailto:WestGeotechnicalSubmittal@ncdot.gov)

The status of the review of structure-related submittals sent to the Structures Management Unit can be viewed from the Unit's website, via the "Drawing Submittal Status" link.

The status of the review of geotechnical-related submittals sent to the Geotechnical Engineering Unit can be viewed from the Unit's website, via the "Geotechnical Construction Submittals" link.

Direct any questions concerning submittal review status, review comments or drawing markups to the following contacts:

Primary Structures Contact:

(919) 707 – 6408

James Bolden

(919)

250 – 4082 facsimile

[jlbolden@ncdot.gov](mailto:jlbolden@ncdot.gov)

Secondary Structures Contacts:  
6451

Emmanuel Omile

(919) 707 –

Madonna Rorie

(919) 707 –

6508

Eastern Regional Geotechnical Contact (Divisions 1-7):

662 – 4710

Chris Kreider

(919)

[ckreider@ncdot.gov](mailto:ckreider@ncdot.gov)

Western Regional Geotechnical Contact (Divisions 8-14):

8902

Eric Williams

(704) 455 –

[ewilliams3@ncdot.gov](mailto:ewilliams3@ncdot.gov)**3.0 SUBMITTAL COPIES**

Furnish one complete copy of each submittal, including all attachments, to the Engineer. At the same time, submit the number of hard copies shown below of the same complete submittal directly to the Structures Management Unit and/or the Geotechnical Engineering Unit.

The first table below covers “Structure Submittals”. The Engineer will receive review comments and drawing markups for these submittals from the Structures Management Unit. The second table in this section covers “Geotechnical Submittals”. The Engineer will receive review comments and drawing markups for these submittals from the Geotechnical Engineering Unit.

Unless otherwise required, submit one set of supporting calculations to either the Structures Management Unit or the Geotechnical Engineering Unit unless both units require submittal copies in which case submit a set of supporting calculations to each unit. Provide additional copies of any submittal as directed.

**STRUCTURE SUBMITTALS**

<b>Submittal</b>	<b>Copies Required by Structures Management Unit</b>	<b>Copies Required by Geotechnical Engineering Unit</b>	<b>Contract Reference Requiring Submittal <sup>1</sup></b>
Arch Culvert Falsework	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Box Culvert Falsework <sup>7</sup>	5	0	Plan Note, SN Sheet & “Falsework and Formwork”
Cofferdams	6	2	Article 410-4
Foam Joint Seals <sup>6</sup>	9	0	“Foam Joint Seals”

Expansion Joint Seals (hold down plate type with base angle)	9	0	“Expansion Joint Seals”
Expansion Joint Seals (modular)	2, then 9	0	“Modular Expansion Joint Seals”
Expansion Joint Seals (strip seals)	9	0	“Strip Seals”
Falsework & Forms <sup>2</sup> (substructure)	8	0	Article 420-3 & “Falsework and Formwork”
Falsework & Forms (superstructure)	8	0	Article 420-3 & “Falsework and Formwork”
Girder Erection over Railroad	5	0	Railroad Provisions
Maintenance and Protection of Traffic Beneath Proposed Structure	8	0	“Maintenance and Protection of Traffic Beneath Proposed Structure at Station ____”
Metal Bridge Railing	8	0	Plan Note
Metal Stay-in-Place Forms	8	0	Article 420-3
Metalwork for Elastomeric Bearings <sup>4,5</sup>	7	0	Article 1072-8
Miscellaneous Metalwork <sup>4,5</sup>	7	0	Article 1072-8
Disc Bearings <sup>4</sup>	8	0	“Disc Bearings”
Overhead and Digital Message Signs (DMS) (metalwork and foundations)	13	0	Applicable Provisions
Placement of Equipment on Structures (cranes, etc.)	7	0	Article 420-20
Precast Concrete Box Culverts	2, then 1 reproducible	0	“Optional Precast Reinforced Concrete Box Culvert at Station ____”
Prestressed Concrete Cored Slab (detensioning sequences) <sup>3</sup>	6	0	Article 1078-11
Prestressed Concrete Deck Panels	6 and 1 reproducible	0	Article 420-3



Prestressed Concrete Girder (strand elongation and detensioning sequences)	6	0	Articles 1078-8 and 1078-11
Removal of Existing Structure over Railroad	5	0	Railroad Provisions
Revised Bridge Deck Plans (adaptation to prestressed deck panels)	2, then 1 reproducible	0	Article 420-3
Revised Bridge Deck Plans (adaptation to modular expansion joint seals)	2, then 1 reproducible	0	“Modular Expansion Joint Seals”
Sound Barrier Wall (precast items)	10	0	Article 1077-2 & “Sound Barrier Wall”
Sound Barrier Wall Steel Fabrication Plans <sup>5</sup>	7	0	Article 1072-8 & “Sound Barrier Wall”
Structural Steel <sup>4</sup>	2, then 7	0	Article 1072-8
Temporary Detour Structures	10	2	Article 400-3 & “Construction, Maintenance and Removal of Temporary Structure at Station _____”
TFE Expansion Bearings <sup>4</sup>	8	0	Article 1072-8

**FOOTNOTES**

1. References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Articles refer to the *Standard Specifications*.
2. Submittals for these items are necessary only when required by a note on plans.
3. Submittals for these items may not be required. A list of pre-approved sequences is available from the producer or the Materials & Tests Unit.
4. The fabricator may submit these items directly to the Structures Management Unit.
5. The two sets of preliminary submittals required by Article 1072-8 of the *Standard Specifications* are not required for these items.
6. Submittals for Fabrication Drawings are not required. Submittals for Catalogue Cuts of Proposed Material are required. See Section 5.A of the referenced provision.
7. Submittals are necessary only when the top slab thickness is 18” or greater.

**GEOTECHNICAL SUBMITTALS**

<b>Submittal</b>	<b>Copies Required by Geotechnical Engineering Unit</b>	<b>Copies Required by Structures Management Unit</b>	<b>Contract Reference Requiring Submittal <sup>1</sup></b>
Drilled Pier Construction Plans <sup>2</sup>	1	0	Subarticle 411-3(A)
Crosshole Sonic Logging (CSL) Reports <sup>2</sup>	1	0	Subarticle 411-5(A)(2)
Pile Driving Equipment Data Forms <sup>2,3</sup>	1	0	Subarticle 450-3(D)(2)
Pile Driving Analyzer (PDA) Reports <sup>2</sup>	1	0	Subarticle 450-3(F)(3)
Retaining Walls <sup>4</sup>	1 drawings, 1 calculations	2 drawings	Applicable Provisions
Temporary Shoring <sup>4</sup>	1 drawings, 1 calculations	2 drawings	“Temporary Shoring” & “Temporary Soil Nail Walls”

**FOOTNOTES**

- References are provided to help locate the part of the contract where the submittals are required. References in quotes refer to the provision by that name. Subarticles refer to the *Standard Specifications*.
- Submit one hard copy of submittal to the Engineer. Submit a second copy of submittal electronically (PDF via email), US mail or other delivery service to the appropriate Geotechnical Engineering Unit regional office. Electronic submission is preferred.
- The Pile Driving Equipment Data Form is available from:  
[https://connect.ncdot.gov/resources/Geological/Pages/Geotech\\_Forms\\_Details.aspx](https://connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx)  
See second page of form for submittal instructions.

Electronic copy of submittal is required. See referenced provision.

**CRANE SAFETY****(8-15-05)**

Comply with the manufacturer specifications and limitations applicable to the operation of any and all cranes and derricks. Prime contractors, sub-contractors, and fully operated rental

companies shall comply with the current Occupational Safety and Health Administration regulations (OSHA).

Submit all items listed below to the Engineer prior to beginning crane operations involving critical lifts. A critical lift is defined as any lift that exceeds 75 percent of the manufacturer's crane chart capacity for the radius at which the load will be lifted or requires the use of more than one crane. Changes in personnel or equipment must be reported to the Engineer and all applicable items listed below must be updated and submitted prior to continuing with crane operations.

#### **CRANE SAFETY SUBMITTAL LIST**

- A. **Competent Person:** Provide the name and qualifications of the "Competent Person" responsible for crane safety and lifting operations. The named competent person will have the responsibility and authority to stop any work activity due to safety concerns.
- B. **Riggers:** Provide the qualifications and experience of the persons responsible for rigging operations. Qualifications and experience should include, but not be limited to, weight calculations, center of gravity determinations, selection and inspection of sling and rigging equipment, and safe rigging practices.
- C. **Crane Inspections:** Inspection records for all cranes shall be current and readily accessible for review upon request.
- D. **Certifications:** By July 1, 2006, crane operators performing critical lifts shall be certified by NC CCO (National Commission for the Certification of Crane Operators), or satisfactorily complete the Carolinas AGC's Professional Crane Operator's Proficiency Program. Other approved nationally accredited programs will be considered upon request. All crane operators shall also have a current CDL medical card. Submit a list of anticipated critical lifts and corresponding crane operator(s). Include current certification for the type of crane operated (small hydraulic, large hydraulic, small lattice, large lattice) and medical evaluations for each operator.

#### **GROUT FOR STRUCTURES**

**(12-1-17)**

##### **1.0 DESCRIPTION**

This special provision addresses grout for use in pile blockouts, grout pockets, shear keys, dowel holes and recesses for structures. This provision does not apply to grout placed in post-tensioning ducts for bridge beams, girders, decks, end bent caps, or bent caps. Mix and place grout in accordance with the manufacturer's recommendations, the applicable sections of the Standard Specifications and this provision.

##### **2.0 MATERIAL REQUIREMENTS**

Unless otherwise noted on the plans, use a Type 3 Grout in accordance with Section 1003 of the Standard Specifications.

Initial setting time shall not be less than 10 minutes when tested in accordance with ASTM C266.

Construction loading and traffic loading shall not be allowed until the 3 day compressive strength is achieved.

### **3.0 SAMPLING AND PLACEMENT**

Place and maintain components in final position until grout placement is complete and accepted. Concrete surfaces to receive grout shall be free of defective concrete, laitance, oil, grease and other foreign matter. Saturate concrete surfaces with clean water and remove excess water prior to placing grout.

### **4.0 BASIS OF PAYMENT**

No separate payment will be made for "Grout for Structures". The cost of the material, equipment, labor, placement, and any incidentals necessary to complete the work shall be considered incidental to the structure item requiring grout.

## **ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES**

**(12-30-15)**

### **1.0 INSPECTION FOR ASBESTOS CONTAINING MATERIAL**

Prior to conducting bridge demolition or renovation activities, the Contractor shall thoroughly inspect the bridge or affected components for the presence of asbestos containing material (ACM) using a firm prequalified by NCDOT to perform asbestos surveys. The inspection must be performed by a N.C. accredited asbestos inspector with experience inspecting bridges or other industrial structures. The N.C. accredited asbestos inspector must conduct a thorough inspection, identifying all asbestos-containing material as required by the Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants (NESHAP) Code of Federal Regulations (CFR) 40 CFR, Part 61, Subpart M.

The Contractor shall submit an inspection report to the Engineer, which at a minimum must include information required in 40 CFR 763.85 (a)(4) vi)(A)-(E), as well as a project location map, photos of existing structure, the date of inspection and the name, N.C. accreditation number, and signature of the N.C. accredited asbestos inspector who performed the inspection and completed the report. The cover sheet of the report shall include project identification information. Place the following notes on the cover sheet of the report and check the appropriate box:

☐ ACM was found

☐ ACM was not found

## **2.0 REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIAL**

If ACM is found, notify the Engineer. Compensation for removal and disposal of ACM is considered extra work in accordance with Article 104-7 of the Standard Specifications.

An Asbestos Removal Permit must be obtained from the Health Hazards Control Unit (HHCU) of the N.C. Department of Health & Human Services, Division of Public Health, if more than 35 cubic feet, 160 square feet, or 260 linear feet of regulated ACM (RACM) is to be removed from a structure and this work must be completed by a contractor prequalified by NCDOT to perform asbestos abatement. RACM is defined in 40 CFR, Part 61, Subpart M. Note: 40 CFR 763.85 (a)(4) vi)(D) defines ACM as surfacing, TSI and Miscellaneous which does not meet the NESHAP RACM.

## **3.0 DEMOLITION NOTIFICATION**

Even if no ACM is found (or if quantities are less than those required for a permit), a Demolition Notification (DHHS-3768) must be submitted to the HHCU. Notifications and Asbestos Permit applications require an original signature and must be submitted to the HHCU 10 working days prior to beginning demolition activities. The 10 working day period starts based on the post-marked date or date of hand delivery. Demolition that does not begin as originally notified requires submission of a separate revision form HHCU 3768-R to HHCU. Reference the North Carolina Administrative Code, Chapter 10A, Subchapter 41C, Article .0605 for directives on revision submissions.

### Contact Information

Health Hazards Control Unit (HHCU)  
N.C. Department of Health and Human Services  
1912 Mail Service Center  
Raleigh, NC 27699-1912  
Telephone: (919) 707-5950  
Fax: (919) 870-4808

## **4.0 SPECIAL CONSIDERATIONS**

Buncombe, Forsyth, and Mecklenburg counties also have asbestos permitting and NESHAP requirements must be followed. For projects involving permitted RACM removals, both the applicable county and the state (HHCU) must be notified.

For demolitions with no RACM, only the local environmental agencies must be notified. Contact information is as follows:

### Buncombe County

WNC Regional Air Pollution Control Agency  
49 Mt. Carmel Road  
Asheville, NC 28806  
(828) 250-6777

Forsyth County  
Environmental Affairs Department  
537 N. Spruce Street  
Winston-Salem, NC 27101  
(336) 703-2440

Mecklenburg County  
Land Use and Environmental Services Agency  
Mecklenburg Air Quality  
700 N. Tryon Street  
Charlotte, NC 28202  
(704) 336-5430

## **5.0 ADDITIONAL INFORMATION**

Additional information may be found on N.C. asbestos rules, regulations, procedures and N.C. accredited inspectors, as well as associated forms for demolition notifications and asbestos permit applications at the N.C. Asbestos Hazard Management Program website:

[www.epi.state.nc.us/epi/asbestos/ahmp.html](http://www.epi.state.nc.us/epi/asbestos/ahmp.html)

## **6.0 BASIS OF PAYMENT**

Payment for the work required in this provision will be at the lump sum contract unit price for “Asbestos Assessment”. Such payment will be full compensation for all asbestos inspections, reports, permitting and notifications.

**STANDARD SPECIAL PROVISION**  
**AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS**

\*7/42/2: +"

\ /4"

*General Statute 143C-6-11. (h) Highway Appropriation* "ku"j gtgd{ "lpeqtr qtcvgf "xgtdcvko "kp"vj ku" eqpvtcev"cu'hqmqy u<"

""""\*j +""Co qwpw"Gpewo dgtgf 0'6"Vtcpur qtvcvkqp"r tqlgcv"cr r tqr tkcvkpu"o c{ "dg"gpewo dgtgf "kp"vj g" co qwpv"qh'cmqvo gpwu"o cf g"vq"vj g"F gr ctvo gpv'qh'Vtcpur qtvcvkqp"d{ "vj g"F kgevqt"ht"vj g"guvko cvgf " r c{ o gpw'ht"Vtcpur qtvcvkqp"r tqlgcv"eqpvtcev"y qtnlv"dg'r gthqto gf "kp"vj g"cr r tqr tkcvkqp"huecn" { gct0" Vj g"cmqvo gpw'uj cm'dg"o wnkf gct"cmqvo gpw'cpf "uj cm'dg"dcugf "qp"guvko cvgf "tgxgpwgu"cpf "uj cm' dg" uwdlgev"vq"vj g" o czko wo "eqpvtcev" cwj qtkv{ "eqpvckpgf" kp" *General Statute 143C-6-11(c)*0" Rc{ o gpv'ht"Vtcpur qtvcvkqp"r tqlgcv"y qtnlv gthqto gf "r wtuwcpv"vq"eqpvtcev"kp"cp{ "huecn" { gct"qvj gt" vj cp"vj g"ewtgpv'huecn" { gct"ku"uwdlgev"vq"cr r tqr tkcvkpu"d{ "vj g"l gpgtcn'Cuugo dn{ 0"Vtcpur qtvcvkqp" r tqlgcv"eqpvtcev"uj cm'eqpvckp" c"uej gf wrg"qh'guvko cvgf "eqo r rgvkkp"r tqi tguu."cpf "cp{ "ceegrtcvkqp" qh'vj ku'r tqi tguu'uj cm'dg"uwdlgev"vq"vj g"cr r tqxcn'qh'vj g"F gr ctvo gpv'qh'Vtcpur qtvcvkqp"r tqxkf gf "hwpf u" ctg"cxckcdrg0""Vj g"Ucvg"tgugtxgu"vj g"tki j v"vq"vgto kpcvg"qt"uwur gpf "cp{ "Vtcpur qtvcvkqp"r tqlgcv" eqpvtcev."cpf "cp{ "Vtcpur qtvcvkqp"r tqlgcv"eqpvtcev"uj cm'dg"uq"vgto kpcvgf"qt"uwur gpf gf "h'hwf u"y kni' pqv'dg"cxckcdrg"ht"r c{ o gpv'qh'vj g"y qtnlv"dg"r gthqto gf "f wt kpi "vj cv'huecn" { gct"r wtuwcpv"vq"vj g" eqpvtcev0"kp"vj g"gxgpv'qh'vgto kpcvkqp"qh'cp{ "eqpvtcev."vj g"eqpvtcev"uj cm'dg'i kxgp" c"y tkwgp"pqvleg" qh'vgto kpcvkqp"cv'rgcu'82"fc{ u'dghqtg"eqo r rgvkkp"qh'uej gf wrgf "y qtnlv"ht"y j lej "hwpf u"ctg"cxckcdrg0" kp"vj g"gxgpv'qh'vgto kpcvkqp."vj g"eqpvtcev"uj cm'dg"r clf "ht"vj g"y qtnlv cngcf { "r gthqto gf "kp" ceeqtf cpeg"y kj "vj g"eqpvtcev"ur gekh'ecvkpu0"

Rc{ o gpv'y kni'dg"o cf g"qp"cp{ "eqpvtcev"vgto kpcvgf "r wtuwcpv"vq"vj g"ur gekn'r tqxkukqp"kp"ceeqtf cpeg" y kj "Uwdctveng"32: /35°F + "qh'vj g"2018 *Standard Specifications*0"

**STANDARD SPECIAL PROVISION**  
**NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY**

\*7/39/33+ "

\ /5"

Uggf "uj cml'dg"uco r ngf "cpf "vgugf "d{ "y g'P qtvj "Ectqrlpc" F gr ctvo gpv'qh'Ci tlewnwtg"cpf "Eqpuwo gt "Ugtxlegu. "Uggf "Vgumpi "Ncdqtcvqt { 0"Y j gp"uckf "uco r ngu"ctg"eqmgevfg. "y g'xgpf qt "uj cml'wrr n{ "cp" kpf gr gpf gpv'rdqtcvqt { "tgr qtv'ht "gcej "hqv'q "dg"vgugf 0" T guwnu'ht qo "uggf "uq"uco r ngf "uj cml'dg" hpcio" Uggf "pqv'o ggkpi "y g'ur gekhlecvkpu"uj cml'dg"tglevgf "d{ "y g'F gr ctvo gpv'qh'Vtcur qtcvkqp"cpf "uj cml' pqv'dg" f grkxgtgf "vq" P qtvj "Ectqrlpc" F gr ctvo gpv'qh'Vtcur qtcvkqp"y ctgj qwugu0" Kf "uggf "j cu"dggp" f grkxgtgf "k'uj cml'dg"cxckrdng"ht "r lemr "cpf "tgr rægo gpv'cv'y g'wrr r dgt'au'gzr gpug0"

Cp{ "tgr rdgrkpi "tgs wktgf "d{ "y g'P qtvj "Ectqrlpc" F gr ctvo gpv'qh'Ci tlewnwtg"cpf "Eqpuwo gt "Ugtxlegu. "Uggf "Vgumpi "Ncdqtcvqt { "y cv'y qwf "ecwug"y g'rdgrn'vq"tghgev"cu"qvj gty kug"ur gekhgf "j gtgkpi"uj cml' dg"tglevgf "d{ "y g'P qtvj "Ectqrlpc" F gr ctvo gpv'qh'Vtcur qtcvkqp0"

Uggf "uj cml'dg"htgg"htqo "uggf u"qh'y g'pqzkwu"y ggf u"Lqj puqpi tcuu."Dcmqpxkpg."Lko uqpy ggf." Y ke j y ggf." Ke j i tcuu." Ugttcvfg " Vwuqem" Uj qy { " Etqvcrtkc." Uo qqy " Etqvcrtkc." Ulemgr qf." Ucpf dwt."Y kf "Qpkp."cpf "Y kf "I ctile0"Uggf "uj cml'pqv'dg"rdgrngf "y kj "y g'cdqxg'y ggf "ur geku"qp" y g'uggf "cpcn{ uku"rdgrn0"Vqrgtcpegu"cu"cr r rkgf "d{ "y g'Cuuqekvkqp"qh'Qhhekn"Uggf "Cpcn{ uku"y kni' P QV"dg"cmqy gf "hqt"y g'cdqxg"pqzkwu"y ggf u"gzegr v'ht "Y kf "Qpkp"cpf "Y kf "I ctile0"

Vqrgtcpegu"guvdrkuj gf "d{ "y g'Cuuqekvkqp"qh'Qhhekn"Uggf "Cpcn{ uku"y kni' gpgtcm{ "dg'tgeqi pk gf 0" J qy gxgt."ht "y g'r wtr qug"qh'hi wtkpi "r wtg'rkxg"uggf. "y g'hqwpf "r wtg'uggf "cpf "hqwfp "i gto kpcvkqp" r gtegpwi gu'cu'tgr qtvfg "d{ "y g'P qtvj "Ectqrlpc" F gr ctvo gpv'qh'Ci tlewnwtg"cpf "Eqpuwo gt "Ugtxlegu." Uggf "Vgumpi "Ncdqtcvqt { "y kni' dg" wugf 0" Cm qy cpegu."cu" guvdrkuj gf "d{ "y g'P EF QV."y kni' dg" tgeqi pk gf "ht "o kpkwo "r wtg'rkxg"uggf "cu'rkugf "qp"y g'hqmuy kpi "r ci gu0"

Vj g'ur gekhlecvkpu"ht "tgutlevgf "pqzkwu"y ggf "uggf "tghgtu"vq"y g'pwo dgt "r gt "r qwpf "cu'hqmuy u<"

Tgutlevgf "P qzkwu" <u>Weed</u>	Nko kcvkpu'r gt " <u>Nd0Qh'Uggf "</u>	Tgutlevgf "P qzkwu" <u>Weed</u>	Nko kcvkpu'r gt " <u>Nd0Qh'Uggf "</u>
Drguugf "Vj kwng"	6'uggf u"	Eqtpmuy gt "Tci i gf "Tqdkp+"	49'uggf u"
Eqemgdwt "	6'uggf u"	Vgzcu'Rcplewo "	49'uggf u"
Ur wttgf "Cpqf c"	6'uggf u"	Dtcevfg "Rrpxvcp"	76'uggf u"
Xgrkxgch"	6'uggf u"	Dwenj qtp "Rrpxvcp"	76'uggf u"
O qt pki /i nqt { "	: "uggf u"	Dtqcf rgch'F qeni'	76'uggf u"
Eqtp "Eqemg"	32'uggf u"	Ewn{ "F qeni'	76'uggf u"
Y kf "Tcf kuj "	34'uggf u"	F qf f gt "	76'uggf u"
Rwtr ng "P wugf i g"	49'uggf u"	I kcpv'Hqzckn'	76'uggf u"
[ gm qy "P wugf i g"	49'uggf u"	J qtugpgwg"	76'uggf u"
Ecpcf c "Vj kwng"	49'uggf u"	S weni tcui"	76'uggf u"
Hgrf "Dlpf y ggf "	49'uggf u"	Y kf "O wuct f "	76'uggf u"
J gf i g "Dlpf y ggf "	49'uggf u"	"	"

Uggf "qh'Rgpuceqr"Dej kci tcuu"uj cml'pqv'eqpvkpi"o qtg"y cp"9' "kpgtv'o cwgt."Mgpwem{ "Dnwi tcuu." Egpvr gf g"cpf "Hkpg"qt "J ctf "Hguewg"uj cml'pqv'eqpvkpi"o qtg"y cp"7' "kpgtv'o cwgt"y j gtgcu" c"



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o czko wo "qh'4' 'kpgtv'o cwtg'y knldg'cmqy gf "qp'cm'qvj gt'kpf u'qh'uggf 0''k'cf f kkp."cm'uggf 'uj cm' pqv'eqpvc'p'o qtg'yj cp'4' 'qvj gt'etqr 'uggf "pqt'o qtg'yj cp'3' 'qvcl'y ggf "uggf 0''Vj g'i gto kpcvkp" tcvg'cu'vugw'f'd{''vj g'P qtj 'Ectqkpc'F gr ctvo gpv'qh'Ci tlewwt'g'uj cm'pqv'kcm'dgm'y '92' . 'y j lej ' kpenmf gu'dqv 'f qto cpv'cpf "j ctf "uggf 0''Uggf "uj cm'dg'rdgrf "y kj 'pqv'o qtg'yj cp'9' . '7' "qt'4' " kpgtv'o cwtg'\*ceeqtf kpi 'vq'cdqyg'ur gekkcvkpu+.'4' 'qvj gt'etqr 'uggf 'cpf '3' 'qvcl'y ggf "uggf 0''

Gzeqr vkpu'o c{' 'dg'o cf g'hqt'o kpk wo "r wtg'rkxg'uggf "cmqy cpegu'y j gp"ecugu'qh'uggf "xctkv{' 'uj qtvc' gu'ctg'xgt kkgf 0''Rwtg'rkxg'uggf "r gtegpvc' gu'y knldg'cr r kkgf "k'c'xgt kkgf "uj qtvc' g'ukwcvkp0'' Vj qug'r wtej cug'qtf gtu'qh'f ghekp'v'uggf "m'u'y knldg'etgf kkgf "y kj 'vj g'r gtegpvc' g'yj cv'yj g'uggf "ku' f ghekp'0''

HWTVJ GT'URGEKHECVKQP U'HQT'GCEJ 'UGGF 'I TQWR'CTG'I KXGP 'DGNQY <'

O kpk wo ': 7' 'r wtg'rkxg'uggf =o czko wo '3' 'qvcl'y ggf "uggf =o czko wo '4' 'qvcl'qvj gt'etqr 'uggf =o czko wo '366'tgutlevgf 'pqzkwu'y ggf "uggf 'r gt'r qwpf 0''Uggf 'guu'yj cp': 5' 'r wtg'rkxg'uggf 'y knlpqv' dg'cr r tqxgf 0''

" Ugtlegc'Ngur gf g| c''

" Qcw'\*uggf u+''

O kpk wo ': 2' 'r wtg'rkxg'uggf =o czko wo '3' 'qvcl'y ggf "uggf =o czko wo '4' 'qvcl'qvj gt'etqr =o czko wo '366'tgutlevgf 'pqzkwu'y ggf "uggf 'r gt'r qwpf 0''Uggf 'guu'yj cp'9: ' 'r wtg'rkxg'uggf 'y knlpqv' dg'cr r tqxgf 0''

" Vcm'Hguewg'*cm'cr r tqxgf "xctkvkgu+''	" Dgt o wf ci tcuu''
" Mqdg'Ngur gf g  c''	" Dtqy pqr 'O kngv''
" Mqtgcp'Ngur gf g  c''	" I gto cp'O kngv'o'Utkcp'T''
" Y ggr kpi 'Nqxi tcuu''	" Enxgt'o'Tgf IY j kglEtko uqp''
" Ectr gi tcuu''	

O kpk wo '9: ' 'r wtg'rkxg'uggf =o czko wo '3' 'qvcl'y ggf "uggf =o czko wo '4' 'qvcl'qvj gt'etqr 'uggf =o czko wo '366'tgutlevgf 'pqzkwu'y ggf "uggf 'r gt'r qwpf 0''Uggf 'guu'yj cp'98' 'r wtg'rkxg'uggf 'y knlpqv' dg'cr r tqxgf 0''

" Ego o qp'qt'Uy gg'Uw'pf cpi tcuu''

O kpk wo '98' 'r wtg'rkxg'uggf =o czko wo '3' 'qvcl'y ggf "uggf =o czko wo '4' 'qvcl'qvj gt'etqr 'uggf =o czko wo '366'tgutlevgf 'pqzkwu'y ggf "uggf 'r gt'r qwpf 0''Uggf 'guu'yj cp'96' 'r wtg'rkxg'uggf 'y knlpqv' dg'cr r tqxgf 0''

" T{g'i tclp=cm'xctkvkgu+''
" Mgpwem' 'Dnagi tcuu'*cm'cr r tqxgf "xctkvkgu+''
" J ctf 'Hguewg'*cm'cr r tqxgf "xctkvkgu+''
" Uj twd'*dkeqqt+'Ngur gf g  c''

O kpk wo '92' 'r wtg'rkxg'uggf =o czko wo '3' 'qvcl'y ggf "uggf =o czko wo '4' 'qvcl'qvj gt'etqr 'uggf =o czko wo '366'pqzkwu'y ggf "uggf 'r gt'r qwpf 0''Uggf 'guu'yj cp'92' 'r wtg'rkxg'uggf 'y knlpqv' dg'cr r tqxgf 0''

" Egpvr gf gi tcuu''

" Lcr cp'gug'O kngv''

39DR060T0: "( '39DR060T0 3"

" Etqy pxgvej " " " Tggf'Ecpct{'I tcuu"  
 " Rgpuceqr'Dcj kci tcuu"" " \ q{uk"  
 " Etggr kpi 'Tgf'Hguewg"  
 "

O kplk wo '92' 'r wtg'ixg'uggf =o czko wo '3' 'qwn'y ggf 'uggf =o czko wo '4' 'qwn'qyj gt'etqr "  
 uggf =o czko wo '7' "kgtv'o cwgt=o czko wo '366'tgutkwgf'pqzkqu'y ggf 'uggf 'r gt 'r qwpf 0'

" Dctp{ctf'I tcuu"  
 " Dki "Dnwgugo "  
 " Nkwg"Dnwgugo "  
 " Dtkwn{ 'Nqewuv"  
 " Dktfuhqqv'Vtghqkri'  
 " kpf kpi tcuu"  
 " Qtej ctf i tcuu"  
 " Uy kej i tcuu"  
 " [ gnqy 'Dnquuo "Uy gg v'Enqxtg"  
 "

**STANDARD SPECIAL PROVISION"**

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**ERRATA**

" 4/34/3: +"

\ /6"

Tgxkug"vj g"2018"Standard Specifications cu'hqmqy u<"

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**Division 7**

**Page 7-27, line 4, Article 725-1 MEASUREMENT AND PAYMENT, tgr ræg"ctvæg"pwo dgt" 0947/30'y kj "0946/600"**

"

**Page 7-28, line 10, Article 725-1 MEASUREMENT AND PAYMENT, tgr ræg"ctvæg"pwo dgt" 0947/30'y kj "0947/500"**

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**Division 8**

**Page 8-23, lines 3, 6, 11 and 13, Section 836, SLUICE GATE, tgr ræg"ctvæg"pwo dgt"ö: 588ö" y kj "ö: 5800"**

**Division 10**

**Page 10-69, Table 1046-1 WIRE DIAMETER, tgpcog" TGE[ ENGF" RNCUVÆ" CPF" EQORQUKVG"QHUGV"DNQEMRTQRGT VIGU"**

**Page 10-162, line 1, Article 1080-50 PAINT FOR VERTICAL MARKERS, tgr ræg"ctvæg" pwo dgt"032: 2/72ö'y kj "032: 2/3200"**

"

**Page 10-162, line 5, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL, tgr ræg" ctvæg"pwo dgt"032: 2/83ö'y kj "032: 2/3300"**

"

**Page 10-162, line 22, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL, tgr ræg"ctvæg"pwo dgt"032: 2/94ö'y kj "032: 2/3400"**

"

**Page 10-163, line 25, Article 1080-83 FIELD PERFORMANCE AND SERVICES, tgr ræg" ctvæg"pwo dgt"032: 2/: 5ö'y kj "032: 2/3500"**

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**STANDARD SPECIAL PROVISION**

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**PLANT AND PEST QUARANTINES****(Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, And Other Noxious Weeds)"**

\*5/3: /25+Tgx034/42/38+"

\ /26c"

**Within Quarantined Area**

"

Vj ku'r tqlgev'o c{ "dg'y kj kp" c"eqwpv{ "tgi wævgf "hqt'r æpv"cpf lqt'r guu0"Kl'vj g'r tqlgev"qt"cp{ "r ctv'qh' vj g"Eqpvtcevtu"qr gtcv'kpu"ku"mæcvf "y kj kp" c"s wctcpv'kpgf "ctgc."vj qtwi j n{ "engcp"cm'gs wkr o gpv' r tkt"q"o qxkpi "qww'qh'vj g"s wctcpv'kpgf "ctgc0"Ego r n{ "y kj "hgf gtcn'ucv'g"tgi wæcv'kpu'd{ "qdv'kpi "c" egtw'æcv'g"qt"rko kgf "r gto k'hqt"cp{ "tgi wævgf "ctv'æng"o qxkpi "ltqo "vj g"s wctcpv'kpgf "ctgc0"

**Originating in a Quarantined County**

"

Qdv'kpi "c" egtw'æcv'g"qt"rko kgf "r gto k'kuwgf "d{ "vj g"P (E0F gr ctvo gpv'qh'Ci tlewnwtg'Wpkgf "Ucvgu" F gr ctvo gpv'qh'Ci tlewnwtg0"J cxg"vj g"egtww'æcv'g"qt"rko kgf "r gto k'ceeqr cp{ "vj g"ctv'æng"y j gp"kv" cttkxgu"cv'vj g'r tqlgev'ukg0"

**Contact**

"

Eqpcev' vj g" P (E0 F gr ctvo gpv' qh' Ci tlewnwtg'Wpkgf " Ucvgu" F gr ctvo gpv' qh' Ci tlewnwtg"" cv' 3/: 22/428/; 555."; 3; /929/5952."qt" <http://www.ncagr.gov/plantindustry/> "vq" f gvgto kpg" vj qug" ur gekle"r tqlgev'ukgu"mæcvf "kp"vj g"s wctcpv'kpgf "ctgc"qt"hqt"cp{ "tgi wævgf "ctv'æng"wgf "qp"vj ku'r tqlgev' qtki kpcv'kpi "kp" c"s wctcpv'kpgf "eqwpv{ 0"

**Regulated Articles Include**

"

- 30 Uqln"ucpf . "i texgn"eqo r quv"r gcv."j wo wu."o wem"cpf "f geqo r qugf "o cpwtg."ugr ctv'gn{ "qt"y kj " qvj gt "ctv'ængu0""Vj ku"lpenw' gu"o qxgo gpv'qh'ctv'ængu"rkugf "cdqyg"vj cv'o c{ "dg"cuuqekcvf "y kj " ewly cvg."f kej "r wtkpi ."cpf "uj qwf gt "eww'kpi 0"
- 40 Ræpv'u'y kj "tqqw'lpenw' kpi "i tcuu'uqf 0"
- 50 Ræpv'etqy pu'cpf "tqqwu0"
- 60 Dwdu."eqto u."tj k qo gu"cpf "wdgtu"qh'qtpco gpv'nr ræpvu0"
- 70 J c{ ."uvcy ."hgf f gt."cpf "r æpv'hwgt'qh'cp{ "nkp'f 0"
- 80 Engctkpi "cpf "i twddkpi "f gdt ku0"
- 90 Wugf "ci tlewnwtc'lewn'kxcv'kpi "cpf "j ctvgu'kpi "gs wkr o gpv0"
- : 0 Wugf "gctvj /o qxkpi "gs wkr o gpv0"
- : 0 Cp{ "qvj gt"r tqf wæu."ctv'ængu."qt"o gcpu"qh'eqpxg{ cpeg."qh'cp{ "ej ctcevgt."h'f gvgto kpgf "d{ "cp" kpur gev'qt"q"r tgu'pvc"j c| ctf "qh'ur tgcf kpi "ko r qtvgf "h'g"cpv."i {ru{ "o qvj ."y kej y ggf ."go gtc'rf " cuj "dqtgt."qt"qvj gt"pqzkwu'y ggf u0"

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**STANDARD SPECIAL PROVISION**

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**MINIMUM WAGES**

\*9/43/2; +"

\ /7"

"

**FEDERAL:**" Vj g'Hk't'Ncdqt'Ucpcfctf u'Cev'r tqxkf gu'vj cv'y kj 'egt'clp'gze'gr v'qpu'gxgt {"go r nq {gt" uj cml'r c {"y ci gu'cv'vj g'tcv'g'qh'pqv'rguu'vj cp"UGXGP "F QNNCTU"CP F "VY GP V[ " HXG'EGP VU\*89047+r gt'j qwt0'

"

**STATE:**" Vj g'P qtvj 'Ectq'kpc'O k'pko wo "Y ci g'Cev'r tqxkf gu'vj cv'gxgt {"go r nq {gt'uj cml'r c {"vq" gcej "qh'j ku'go r nq {gg'u'y ci gu'cv'c'tcv'g'qh'pqv'rguu'vj cp"UGXGP "F QNNCTU"CP F " VY GP V[ "HXG'EGP VU\*89047+r gt'j qwt0'

"

Vj g'o k'pko wo "y ci g'r c'kf "vq"cm'l'unk'ngf "r'dqt"go r nq {gf "qp"vj ku'eqp'tcev'uj cml'dg" UGXGP "F QNNCTU"CP F "VY GP V[ "HXG'EGP VU\*89047+r gt'j qwt0'

"

Vj g'o k'pko wo "y ci g'r c'kf "vq"cm'l'p'v'gto gf k'cv'g'r'dqt"go r nq {gf "qp"vj ku'eqp'tcev'uj cml' dg"UGXGP "F QNNCTU"CP F "VY GP V[ "HXG'EGP VU\*89047+r gt'j qwt0'

"

Vj g'o k'pko wo "y ci g'r c'kf "vq"cm'l'w'p'unk'ngf "r'dqt"qp"vj ku'eqp'tcev'uj cml'dg"UGXGP " F QNNCTU"CP F "VY GP V[ "HXG'EGP VU\*89047+r gt'j qwt0'

"

Vj ku'f g'v'gto k'p'cv'qp'qh'vj g'l'p'v'g'p'v'qh'vj g'c'r r d'ec'v'qp'qh'vj ku'cev'vq'vj g'eqp'tcev'qp'vj ku' r t'ql'gev'ku'vj g't'gur q'puk'd'k'k'{"qh'vj g'Eqp'tcev't0'

"

Vj g'Eqp'tcev't'uj cml'j cxg"pq"e'rk'o "ci c'k'p'uv'vj g'F gr ctwo gpv'qh'Vt'cpur qt'cv'k'qp"ht"cp {"ej cpi gu'l'p" vj g'o k'pko wo "y ci g'r'ey u."H'gf g't'cn'qt"U'cv'g0"K'ku'vj g't'gur q'puk'd'k'k'{"qh'vj g'Eqp'tcev't'vq"nggr "h'w'w{" " k'p'ht'o gf "qh'cm'l'H'gf g't'cn'c'p'f "U'cv'g'N'cy u'c'h'g'ev'k'pi "j ku'eqp'tcev't0'

"

**STANDARD SPECIAL PROVISION****TITLE VI AND NONDISCRIMINATION:**

\*8/4: /99+Tgx"8B; 1423: +"

\ /8"

Tgxkug"vj g"2018 Standard Specifications"cu'hqmqy u&lt;"

Tgr rceg"Ctvleng"325/6\*D+y kj "vj g'hqmqy lpi &lt;"

Vj g" P qtvj " Ectqlkpc" F gr ctvo gpv' qh' Vtcur qtwkqp" ku" eqo o kwgf " vq" ectt {lpi " qw" vj g" WUO' F gr ctvo gpv' qh' Vtcur qtwkqp" r qke { " qh' gpuwtkpi " pqp kuetko kpcvqp" kp" vj g" cy ctf " cpf " cf o kpkwtcvqp"qh'eqptcew0"

Vj g'r tqxkukpu"qh"vj ku"ugevqp"tgrvvgf "vq" Wpkvgf "Ucvgu" F gr ctvo gpv'qh' Vtcur qtwkqp" \*WU' F QV+ " Qtf gt "327204C. "Vkmg" 6; "Eqf g"qh' Hgf gtcn' Tgi wrcvqp" \*EHI + "r ctv' 43. "45" Wpkvgf "Ucvgu" Eqf g" \*WU' E0" 362" cpf "45" EHI "r ctv' 422" \*qt" 6; "EHI" 525. "6; "WU' E0" 7554" qt" 6; "WU' E0" 69345+ "ctg" cr r rkecdng" vq" cni' P qtvj " Ectqlkpc" F gr ctvo gpv' qh' Vtcur qtwkqp" \*P EF QV+ "eqptcew" cpf "vq" cni' tgrvvgf " uweqptcew. " o cvgtkcn' uwr r n{ . " gpi kpggtkpi . " ctej kgewtcn' cpf " qvj gt " ugtxleg" eqptcew. " tgi ctf rguu' qh' f qmet "co qwpv0 Cp { "Hgf gtcn' tqxkukpu" vj cv' ku' ur gekkccm { "tgs wktgf "pqv' ur gekkccm { "ugv' hqt vj "ku' j gtgd { "lpeqtr qtcvgf "d { "tghgtgpeg0"

**\*3+ Title VI Assurances (USDOT Order 1050.2A, Appendix A)**

F wtkpi " vj g" r gthqto cpeg" qh' vj ku" eqptcew. " vj g" eqptcevt. " hqt" kuqth" ku" cuuk pggu. " cpf " uweeguutp" kp" kpvgtguv' \*j gtgkpcvgt "tghgtgf "vq" cu' vj g' \$eqptcevt \$+ "ci tggv' cu' hqmqy u<"

\*c+ Ego r rkepeg' y kj "Tgi wrcvqp"

Vj g" eqptcevt " \*j gtgkpcvgt "lpenf gu" eqpuwncpvu+ "uj cni' eqo r n{ "y kj "vj g" Cew" cpf "vj g" Tgi wrcvqp" tgrvvgf "vq" P qp kuetko kpcvqp" kp" Hgf gtcn' /cuukvgf "r tqi tco u" qh' vj g" WUO' F gr ctvo gpv' qh' Vtcur qtwkqp. "Hgf gtcn' J ki j y c { "Cf o kpkwtcvqp" \*HI Y C+ . "cu' vj g { "o c { " dg" co gpf gf "Itqo "vko g" vq" vko g. "y j lej "ctg' j gtgkpcvgt "lpeqtr qtcvgf "d { "tghgtgpeg" cpf "o cf g' c" r ctv' qh' vj ku" eqptcew0"

\*d+ P qp kuetko kpcvqp"

Vj g" eqptcevt. "y kj "tgi ctf "vq" vj g" y qtnr' gthqto gf "d { "k' f wtkpi "vj g" eqptcew. "uj cni' pqv' f kuetko kpcvqp" qp" vj g" i tqwpu" qh' tceg. "eqm. "qt" pcvkpcn' qtki kp" kp" vj g" ugrgevkqp" cpf " tgvkvqp" qh' uweqptcevtu. " lpenf lpi " r tqewtgo gpw' qh' o cvgtkcn' cpf " rgcugu" qh' gs wkr o gpv0' Vj g" eqptcevt " uj cni' pqv' r ctvlekvvgf " f kgevn { " qt" kpf kgevn { " kp" vj g" f kuetko kpcvqp" r tqj kdkgf "d { "vj g" Cew" cpf "vj g" Tgi wrcvqp. "lpenf lpi " go r m { o gpv' r tcevegu" y j gp" vj g" eqptcew" eqxgtu" cp { "cevkkv { . " r tqlgev. " qt" r tqi tco "ugv' hqt vj " kp" Cr r gpf kz "D" qh' 6; "EHI" Rctv' 430'

\*e+ Uqrekcvcvqp" hqt "Uweqptcevtu. "lpenf lpi " Rtqewtgo gpw' qh' O cvgtkcn' cpf "Gs wkr o gpv' kp" cni' uqrekcvcvqp. "gk j gt "d { "eqo r gvkkvg" dlf f lpi . "qt" pgi qvkvqp" o cf g' d { "vj g" eqptcevt " hqt "y qtnr' vq" dg" r gthqto gf "wpgt "c" uweqptcew. "lpenf lpi " r tqewtgo gpw' qh' o cvgtkcn. "qt" rgcugu" qh' gs wkr o gpv. "gcej " r qvkvkn' uweqptcevt "qt" uwr r rkt "uj cni' dg" pqvkkv "d { "vj g" eqptcevt " qh' vj g" eqptcevt "u" qdri cvkpu" wpgt "vj ku" eqptcew" cpf "vj g" Cew" cpf "vj g" Tgi wrcvqp" tgrvvgf "vq" P qp kuetko kpcvqp" qp" vj g" i tqwpu" qh' tceg. "eqm. "qt" pcvkpcn' qtki kp0'

\*f+ kphqto cvkqp" cpf "Tgr qtw"

Vj g" eqptcevt "uj cni' r tqxkf g" cni' kphqto cvkqp" cpf "tgr qtw" tgs wktgf "d { "vj g" Cew. "vj g" Tgi wrcvqp. "cpf " f kgevkvgu" kuwgf "r wtuwcpv' j gtgvq" cpf "uj cni' gt o k' ceegu' vq" ku' dqqu. "

39DR060T0: "( '39DR060T0 3"

tgeqtf u."ceeqwpw."qj gt"uqwtegu"qh'kphqto cvkqp."cpf "ku'hcekklgu"cu'o c{"dg'f gvgto kpgf " d{" 'y g'Tgekr kgpv'qt'yj g'HJ Y C'vq'dg'r gtvkpgpv'vq'cuetvckp'eqo r rkepeg'y kj 'uwej "Cewu." Tgi wcvkqp."cpf "kpuwewkqp0Y j gtg'cp{"kphqto cvkqp'tgs vktgf "qh'c'eqpvtcevqt'ku'lp'yj g" gzenwukxg"r quugukqp"qh'cpqj gt"y j q'hcku"qt"tghwugu"vq"hwtpkuj "y j g'kphqto cvkqp."y j g" eqpvtcevqt'uj cml'vq'egt vkh'vq'yj g'Tgekr kgpv'qt'yj g'HJ Y C."cu'cr r tqr tlcvg."cpf "uj cml'ugv" hqtj y j cv'ghqtv'k'j cu'o cf g'vq'qdvckp'yj g'kphqto cvkqp0"

\*g+ Ucpvckqp'uht'P qpeqo r rkepeg<"

k'v'g'gxgpv'qhl'c'eqpvtcevqt'u'papeqo r rkepeg'y kj 'y j g'P qp/f kuetlo kpcvckp'r tqxkukqp'qh' yj ku'eqpvtcev."y j g'Tgekr kgpv'y kn'lo r qug'uwej "eqpvtcev'ucpvckqp'cu'k'cpf kq' yj g'HJ Y C" o c{"f gvgto kpg'vq'dg'cr r tqr tlcvg."kpenf kpi . "dw'pqv'iko ksgf "vq<"

\*k+ Y kj j qrf kpi "r c{o gpw"vq"y j g"eqpvtcevqt"wpf gt"y j g"eqpvtcev"wpvkl'yj g"eqpvtcevqt" eqo r rkeg=cpf kq"

\*k+ Ecpegnkpi . "vgo kpcvckp. "qt"uwur gpf kpi "c'eqpvtcev."lp'y j qrg'qt'kp'r ctv0'

\*h+ kpeqtr qtcvckp"qh'Rtqxkukqp"

Vj g"eqpvtcevqt"uj cml'kpenf g"y j g'r tqxkukqp"qh'r ctei tcr j u"qpg"y j tqwi j "ukz"lp"gxgt {" uwdeqpvtcev."kpenf kpi "r tqewtgo gpw"qh'o cvgtkcu"cpf "rgcugu"qh'gs wkr o gpv."wprguu" gzgo r v'd{" 'y j g"Cewu." y j g'Tgi wcvkqp" cpf "f kgev'cu"kuwgf "r wtuwcpv"y j gtgq0' Vj g" eqpvtcevqt"uj cml'veng"cevckp"y kj "tgur gev"vq"cp{" uwdeqpvtcev"qt"r tqewtgo gpv'cu"y j g" Tgekr kgpv'qt'yj g'HJ Y C"o c{"f kgev'cu"o c"gpw'qh'gphqtelpi "uwej "r tqxkukqp'kpenf kpi " ucpvckqp'uht'papeqo r rkepeg0Rtqxk'gf . "y j cv'kh'yj g"eqpvtcevqt"dgeqo gu'kpxqkxgf "kp."qt" ku'yj tgcvgpgf "y kj "rskl cvkqp"d{" "c'uwdeqpvtcevqt."qt"uwur r dgt"dgecwug"qh'uwej "f kgevckp." y j g"eqpvtcevqt"o c{" "tgs wguv"y j g'Tgekr kgpv"vq"gpvgt"kvq"cp{" rskl cvkqp"vq"r tqvgev'yj g" kpvgtguu'qh'yj g'Tgekr kgpv0'k'cf f kklp."y j g"eqpvtcevqt"o c{" "tgs wguv'yj g'Wpkxgf "Ucvgu"vq" gpvgt'kvq'yj g'rskl cvkqp"vq"r tqvgev'yj g'kpvgtguu'qh'yj g'Wpkxgf "Ucvgu0'

#### \*4+ Title VI Nondiscrimination Program (23 CFR 200.5(p))

Vj g'P qtvj "Ectqkpc"F gr ctvo gpv'qh'Vtcur qtcvckp"\*P EF QV+j cu'cuwgtf "y j g'WUF QV"y j cv." cu'c'eqpf kklp"vq'tgegkklpi "hgf gtcn'kpcpekn'cuukucpeg."P EF QV"y kn'eqo r n' "y kj "Vknrg"XK' qh'yj g'EkklTki j w'Cev'qh'3; 86"cpf "cm'tgs vktgo gpw'lo r qugf "d{" "Vknrg"6; "EHI"r ctv'43"cpf " tgrcvgf "pqp'f kuetlo kpcvckp"cwj qtkklgu"vq'gpw'g'yj cv'pq'r gtup'uj cm"qp'yj g'i tqw'p'qh'tceg." eqmqt." pcvkpcn' qtkl kp." rko ksgf "Gpi rkuj "r tqh'elkpe{" . ugz." ci g." qt" f kcdkklv' "kpenf kpi " tgrkl kqpletggf "qt"lpeqo g'rgxgn"y j gtg'cr r rkecdrg+ "dg"gzewf gf "htqo "r ctv'ekr cvkqp"lp."dg" f gplgf "y j g'dgpg'ku'qh"qt"dg"uwdlgev'gf "vq'f kuetlo kpcvckp"wpf gt"cp{" r tqi tco u."cev'xklgu."qt" ugtxlegu"eqpf wewgf "qt"hw'p'gf "d{" "P EF QV0'Eqpvtcevqtu"cpf "qvj gt"qti cpl'cvkqp"wpf gt" eqpvtcevqt"ci tggo gpv'y kj "P EF QV"o wuv'cuq'eqo r n' "y kj "Vknrg"XK'cpf "tgrcvgf "cwj qtkklgu." yj gtghqtg<"

\*c+ F wtkpi "y j g'r gthqto cpeg"qh'yj ku'eqpvtcevqt"ci tggo gpv."eqpvtcevqtu"\*g0 0'uwdeqpvtcevqtu." eqpuwncpvu."xgpf qtu."r tlo g'eqpvtcevqtu+ctg'tgur qpukdrg'hqt'eqo r n' kpi "y kj "P EF QV0' Vknrg"XKRtqi tco 0Eqpvtcevqtu'ctg'pqv'tgs vktgf "vq'r tgr ctg'qt"uwdo k'Vknrg"XKRtqi tco u0' Vq'eqo r n' "y kj "y j ku'ugevckp."y j g'r tlo g'eqpvtcevqt"uj cm<"

30 Rquw'P EF QV0'P qv'eg"qh'P qp'f kuetlo kpcvckp" cpf "y j g"Eqpvtcevqtu"qy p"Gs wcn' Go r n' {o gpv'Qr r qtwpk' {"\*GGQ+"Rqrl {" "lp'eqpur lewqwu'necvckqp"ceeguukdrg"vq"cm' go r n' {ggu."cr r rkecpw'cpf "uwdeqpvtcevqtu"qp'yj g'lqduk0'

40 Rj {ukecm' "kpeqtr qtcvg"y j g'tgs vktgf "Vknrg"XK'ercwugu"kvq"cm' uwdeqpvtcev"qp" hgf gtcml'cuukxgf "cpf "ucvg/hw'p'gf "P EF QV"r tqlgew."cpf "gpw'g" kpenwukqp" d{" " uwdeqpvtcevqtu'kvq"cm'ny gt/vkt'uwdeqpvtcev0'

39DR060T0: '( '39DR060T0 3''

- 50 Tgs wktgf '' Uqdekcvkqp'' Ncpi wci g0' Vj g'' Eqpvtcevqt''uj cmi' kpenwf g'' yj g'' hqmny lpi '' pqvkhcckvqp''kp''cmi'qdekcvkqpu''hqt''dkf u'cpf ''tgs wguu''hqt''y qtnhqt''o cvgtken'tgi ctf nguu'' qh'hwpf lpi ''uqwtæg<''
- õVj g'' P qtvj '' Ectqrlpc'' F gr ctwo gpv'' qh'' Vtcur qtvckqp.'' kp'' ceeqtf cpeg'' y kj '' yj g'' r tqxkukqpu''qh''Vkmg''XKqh''yj g''Ekxki'Tki j w''Cev''qh''3; 86''\*9: ''Ucv0'474.''64''WUE0'EE'' 4222f''vq''4222f/6+''cpf '' yj g''Tgi wcvkqpu.''j gtgd{ ''pqvkhgu''cni'dkf fgtu''yj cv''k''y kni' chhko cvkxgn{ ''gputg''yj cv'cp{ ''eqpvtcev''gpvgtgf ''kpq''r wtuwcpv''vq''yj ku'cf xgtvkgu gpv.'' f kucf xcpvci gf ''dwukpguu''gpvgr tkgu''y kni'dg''chhqtgf gf ''hwm'cpf ''hck''qr r qtwpkv{ ''vq'' uwdo k'dkf u''kp''t gur qpug''vq''yj ku'kpxkcvkqp''cpf ''y kni'pqv'dg''f kuetko kpcvgf ''ci ckpuv''qp'' yj g''i tqwvf u''qh''tceg.''eqmqt.''qt''pcvkqpcn'qtki kp''kp''eqpukf gtcvkqp''hqt''cp''cy ctf 0'kp'' ceeqtf cpeg'' y kj '' qvj gt'' tgrvvgf'' pqp'f kuetko kpcvkqp'' cwj qtkkgu.'' dkf fgtu'' cpf '' eqpvtcevqtu''y kni'cnuq''pqv'dg''f kuetko kpcvgf ''ci ckpuv''qp'' yj g''i tqwvf u''qh''ugz.''ci g.'' f kucdkv{.''ny /kpego g''ngxgn''etggf ltriki kqp.''qt''nko kgf ''Gpi rkuj ''rtqhlekgpe{''kp'' eqpukf gtcvkqp''hqt''cp''cy ctf 0''
- 60 Rj {ulecm{ ''lpeqtr qtcvg''yj g''HJ Y C/3495.''kp''ku''gpvktgv{.''kpq''cni'uwdeqpvtcew''cpf '' uwdugs wgpv''ny gt''vkg''uwdeqpvtcew''qp''Hgf gtcn'ckf ''j ki j y c{ ''eqputwcvkqp''eqpvtcew'' qpni'0''
- 70 Rtqxf g'' npi wci g'' cuukvcepeg'' ugtxkgu'' \*kq0'' ytkwgp'' vcpurcvkqp'' cpf'' qtcn' kpvgr tgcvkqp+.''hgg''qh'ej cti g.''vq''NGR''go r m{ ggu''cpf ''cr r rlecpw0'Eqpcev'PEF QV'' QET''hqt''hwtvj gt''cuukvcepeg.''h'pggf gf 0''
- 80 Hqt''cuukvcepeg'' y kj '' yj gug''Vkmg''XK'tgs wktgo gpv.''eqpcev''yj g''PEF QV''Vkmg''XK' P qpf kuetko kpcvkqp''Rtqi tco ''cv'3/: 22/744/26750''
- \*d+ Uwdtgekr lgpw''\*gd 0'ekkgu.''eqwvkgu.''NI Cu.''r nppkpi ''qti cplk cvkqpu''o c{ ''dg''tgs wktgf ''vq'' r tgr ctg''cpf ''uwdo k''c''Vkmg''XKRmp''vq''PEF QV.''kpenwf lpi ''Vkmg''XKCuumtcegu''cpf lqt'' ci tgggo gpw0' Uwdtgekr lgpw'' o wuv''cnuq'' gputg'' eqo r rkepeg'' d{ '' yj gkt'' eqpvtcevqtu'' cpf '' uwdtgekr lgpw'' y kj ''Vkmg''XK0\*45'EHT''422Q \*d+\*9+''
- \*e+ Kd'tgxlgv gf ''qt''lpxgukv cvgf ''d{ ''PEF QV.'' yj g''eqpvtcevqt''qt''uwdtgekr lgpv''ci tggv''vq''vcng'' chhko cvkxg''cevkv''vq''eqttgev''cp{ ''f ghlekpekgu''hwpf ''y kj kp''c''tgcupcdng''vko g''r gtqkf.'' pqv''vq''gzeggf''; 2''ecrgpf ct''f c{ u.''wprguu''cf f kkpqpcn'vko g''ku'i tcvvgf ''d{ ''PEF QV0\*45'EHT'' 422Q \*d+\*37+''
- \*f+ Vj g''Eqpvtcevqt''ku''t gur qpukdng''hqt''pqvkh{ lpi ''uwdeqpvtcevqtu''qh''PEF QVai''Gzvgtpcn' F kuetko kpcvkqp''Eqo r rkpwu''Rtqegu0''
- 30 Cr r rlecdkvv{ ''
- Vkmg''XK'cpf ''tgrvvgf ''ny u''r tqvgev''r ctvlekr cpw''cpf ''dgpghlektkgu''\*gd 0''o go dgtu''qh'' yj g'' r wdile'' cpf '' eqpvtcevqtu+'' ltqo '' f kuetko kpcvkqp'' d{ '' PEF QV'' go r m{ ggu.'' uwdtgekr lgpw''cpf ''eqpvtcevqtu.''tgi ctf nguu''qh'hwpf lpi ''uqwtæg0''
- 40 Giki kdkvv{ ''
- Cp{ ''r gtupô qt''eruu''qh''r gtupô y j q''dgrlxgu''j gluj g''j cu''dggp''uwdlgevvgf ''vq'' f kuetko kpcvkqp''dcugf ''qp''tceg.''eqmqt.''pcvkqpcn'qtki kp.''Nko kgf ''Gpi rkuj ''Rtqhlekgpe{'' \*NGR+.''ugz.''ci g.''qt''f kucdkv{ ''\*cpf ''tgriki kqp''kp'' yj g''eqpvgzv''qh''go r m{ o gpv.''cxkcvkqp.'' qt''vcpuk+''o c{ ''hkg''c''y tkwgp''eqo r rkpw0' Vj g''ny ''cnuq''r tqj kdku''kp'vko kf cvkqp''qt'' tgvckcvkqp''qh'cp{ ''uqt0''
- 50 Vlo g''Nko ku''cpf ''Hk'pi ''Qr vkpu''
- Eqo r rkpwu''o c{ ''dg''hkgf ''d{ '' yj g''chhgevvgf ''lpf k'kf wcn'u+''qt''c''tgr tguvpvckxg''cpf ''o wuv'' dg''hkgf ''pq''rvgt''yj cp''3: 2''ecrgpf ct''f c{ u''chgt'' yj g''hqmny lpi <''
- \*k+ Vj g''f cvg''qh''yj g''cmgi gf ''cev''qh''f kuetko kpcvkqp=qt''



39DR060T0: '( '39DR060T0 3''

\*k+ Vj g'f cvg'y j gp'v'j g'r gtupp\*+dgeco g'cy ctg'qh'v'j g'cmgi gf 'f kuetlo kpcvqp="qt"

\*k+ Y j gtg'v'j gtg'j cu'dggp'c"eqpvkwpki "eqwtug'qh'eqpf wev.v'j g'f cvg'qp'y j lej "v'j cv' eqpf wev'y cu'f lueqpvkwpkf "qt'v'j g'rcvuv'kpuwpeg'qh'v'j g'eqpf wev'0'

Vkng'XKcpg'f'gncv'f'f kuetlo kpcvqp'eqo r rkpwu'o c{ "dg'uwdo kwgf "v'j g'f'gmuy kpi " gpvklgu<

➤ P qtv'j "Ectqrkpc" F gr ctvo gpv'qh'Vtcur qtvcvqp. "Qhleg" qh'Ekkl' Tki j wu. "Vkng'XK Rtqi tco. "3733'O ckl'Ugtxleg'Egpgt. "Tcngki j. "P E"498; ; /3733=vm'lt gg"3/: 22/ 744/2675''

➤ Hgf gten'J ki j y c{ "Cf o kpkutcvkqp. "P qtv'j "Ectqrkpc" F kklkqp" Qhleg. "532" P gy " Dgtp" Cxgpgw. "Uvkng'632. "Tcngki j. "P E"49823. "; 3; /969/9232"

➤ WU' F gr ctvo gpv' qh' Vtcur qtvcvqp. " F gr ctvo gpv'cn' Qhleg" qh' Ekkl' Tki j wu. " Gzvgtpcn' Ekkl' Tki j wu Rtqi tco u' F kklkqp. " 3422" P gy " Lgtug{ " Cxgpgw. " UG. " Y cuj kpi vqp. "F E"427; 2=424/588/6292"

60 Hqto cv'ht'Eqo r rkpwu'

Eqo r rkpwu'o wu'dg'lp'y tkkpi "cpf 'uki pgf 'd{ 'v'j g'eqo r rkpcpv\*+qt'c'tgr t gupvcvkg. " cpf "kpenf g'v'j g'eqo r rkpcpwu" pco g. "cf f tguu. "cpf "vgrgr j qpg" pwo dgt0'Eqo r rkpwu' tgegkxgf " d{ " hcz" qt" g/o ckl' y kn' dg' cempqy rgi gf " cpf " r tqeguuf 0' Cngi cvkpu' tgegkxgf "d{ "vgrgr j qpg'y kn'dg'tgf wegf "v'j y tkkpi "cpf "r tqxkf gf "v'j g'eqo r rkpcpv' hqt'eqphk o cvkqp'qt'tgxkukqp'dghgtg'r tqeguukpi 0Eqo r rkpwu'y kn'dg'ceegr vgf 'lp'v'j gt" rpi wci gu. "kpenf kpi "Dtckng0'

70 F kuetlo kpcvqp'Eqo r rkp'v'Hqto "

Eqpvcv' PEFQV' Ekkl' Tki j wu' vq" tgegkxg" c" hwn' eqr { " qh' v'j g' F kuetlo kpcvqp' Eqo r rkp'v'Hqto "cpf "r tqegf vtgu0'

80 Eqo r rkp'v'Dcuki"

Cngi cvkpu'o wu'dg'dcugf "qp'kuwgu'lpqxrkpi "tceg. "eqmgt. "pcvqpcn'qtli kp"\*NGR+. " ugz. "ci g. "f lueclkv{. "qt'tgri kqp"\*lp'v'j g'eqpvz'v'qh'go r m{ o gpv. "cxkcvkqp'qt'vcpukv0' 0Dcuki0'tghgtu'v'j g'eqo r rkpcpwu'o go dgtuj k' "lp'c'r tqvgevgf "i tqwr "ecvgi qt { 0''

"

**TABLE 103-1  
COMPLAINT BASIS**

Protected Categories	Definition	Examples	Applicable Nondiscrimination Authorities
Tceg'cpf "Gj plekf "	Cp'lpf kxf wcn'dgnpi kpi "v'j qpg" qh'v'j g'ceegr vgf 'tcekn' tqr u="qt" v'j g'r gtegr vqp. "dcugf "wvcmf "qp" r j { ukecn'ej ctcevgtkneu'v'j cv'c" r gtupp'ku'c'o go dgt'qh'c'tcekn' i tqwr "	DrcemlChlecp" Co gtlecp. " J kur cplelNcvkq. " Cukcp. "Co gtlecp" Kpf lcp lCrcun'P cvkxg. " P cvkxg" J cy clcp lRcekhe" Kur pf gt. "Y j kg"	Vkng'XKqh'v'j g'Ekkl'Tki j wu'Cev'qh'3; 86=" 6; "EHT"Rctv'43=" 45"EHT"422=" 6; "WUE07554*d=" 6; "WUE0693450' (Executive Order 13166)"
Eqmgt"	Eqmgt'qh'unlp. "kpenf kpi "uj cf g" qh'unlp'y kj kp'c'tcekn' tqr "	Drcem"Y j kg. "dtqy p. " { gmy. "gve0'	
P cvkqpcn'Qtli kp"(Limited English Proficiency)"	Rceg'qh'dkv 0Ekkl' gpui k' ku'pqv' c'fexqt0'Discrimination based on language or a person's accent is also covered)"	O gzlecp. "Ewdcp. " Lcr cpug. " Xkgvpcu gug. "Ej kpgug"	
Ugz"	I gpf gt0'Vj g'ugz'qh'cp" lpf kxf wcn0'	Y qo gp'cpf "O gp"	3; 95"Hgf gten'Clk'J ki j y c{ "Cev=" 6; "WUE07554*d=" 6; "WUE0693450'

39DR06T0: "( '39DR06T0 3"

	Note: Ugz'wpf gt'vj ku'r tqi tco " f qgu'pqv'kpenw' g'ugzwcn' qtkpvcvqp0'		
Ci g"	Rgtuqpu'qhi'cp{'ci g"	43/{ gct/qrf "r gtup"	Ci g'F kuetko kpcvqp'Cev'qhi'3; 97" 6; "WUE07554*d+= 6; "WUE0693450'
F kucdkrkv{"	Rj {ulecn'qt'o gpvcnko r cto gpv." r gto cpgrpvt'go r qtct {. "qt" r gteglxgf0'	Dkpf . 'creqj qrie." r ctc/co r wgg." gr kgr vle. 'f kcdgve." ctvj tkle"	Ugevqp'726'qhi'vj g'T gj cdkrkcvqp'Cev'qhi' 3; 95=" Co gtlecpu'y kj 'F kucdkrkku'Cev'qhi'3; ; 2""
Tgri kqp"kp'vj g'eqpvz'v'qhi' go r nq{o gpv" (Religion/ Creed in all aspects of any aviation or transit-related construction)	Cp'kpf kxf wcn'dgnpi kpi "vq" c" tgrki kqu'i tqwr =qt'vj g" r gtegr vqp."dcugf "qp" f kwpki wuj cdrg'ej ctcevgtku'vj cv'c'r gtup'ku'c'o go dgt'qhi'c" tgrki kqu'i tqwr 0'p'r tceveg." cevqpu'vcnnp"cu'c't guwn'qhi'vj g" o qtcn'cpf "gy kcn'dgkgh'cu'vq" y j cv'ku'tki j v'cpf "y tqpi . 'y j kej " ctg'ulpegtgn'j gnf "y kj "vj g" utgpi vj "qhi'tcf kkpncn'tgri kqu" xlgv u0/Note: F qgu'pqv'j cxg'vq" dg'cuuqelcvf "y kj "c'tgeqi pl gf " tgrki kqu'i tqwr "qt'ej wtej =h'cp" kpf kxf wcn'ulpegtgn'j qrf u'vq'vj g" dgrkgh'k'ku'c'r tqvgevf 'tgrki kqu' r tceveg0'	O wurko . 'Ej tkwcp." Uknj . 'J kpf w"ge0'	Vkrg'XKqhi'vj g'Ekxki'Tki j w'Cev'qhi'3; 86=" 45'EHT"452=" HI Y C/3495'Tgs wkt gf 'Eqpvtcev'Rtqxkukpu0' (49 U.S.C. 5332(b); 49 U.S.C. 47123)"

**\*5+ Pertinent Nondiscrimination Authorities**

F wtkpi "vj g" r gthqto cpeg" qhi'vj ku' eqpvtcev." hqt" kuqth" ku' cuuki pggv." cpf " uweeguqtu'kp'kpwgtguv'ci tggv'vq'eqo r n' {y kj "vj g'hqny kpi 'pqp/f kuetko kpcvqp'uncwgu'cpf " cwj qtklgu."kpenw kpi . 'dw'pqv'iko kxf "vq<

\*c+ Vkrq'XKqhi'vj g'Ekxki'Tki j w'Cev'qhi'3; 86"\*64"WUE0'E'4222f "gv'ugs 0"9: "uncv0'474+." \*r tqj kdku'f kuetko kpcvqp"qp'vj g'dcuku'qhi'tceg."eqmrt."pcvqpcn'qtki kp+=cpf "6; "EHT"Rctv' 430"

\*d+ Vj g'Wpkhqt "Tgmecvqp"Cuukvcpeg" cpf "Tgcn'Rtqr gtv' "Ces wukvqp"Rqrlkgu"Cev'qhi' 3; 92."\*64"WUE0'E'6823+."\*r tqj kdku'wphck'tgcv gpv'qhi'r gtuppu'f kur mceg' "qt'y j qug" r tqrgtv' "j cu'dggp'ces wkt gf "dgecwug'qhi'Hgf gtcn'qt'Hgf gtcn'ckf "r tqi tco u'cpf "r tqlgvu="

\*e+ Hgf gtcn'CK'J ki j y c{ "Cev'qhi'3; 95."\*45"WUE0'E'546'gv'ugs 0: "r tqj kdku'f kuetko kpcvqp" qp'vj g'dcuku'qhi'ugz+=

\*f+ Ugevqp'726'qhi'vj g'T gj cdkrkcvqp'Cev'qhi'3; 95."\*4; "WUE0'E'9; 6'gv'ugs 0: "cu'co gpf gf . " \*r tqj kdku'f kuetko kpcvqp"qp'vj g'dcuku'qhi'f kucdkrkv{ +cpf "6; "EHT"Rctv'49="

\*g+ Vj g'Ci g'F kuetko kpcvqp'Cev'qhi'3; 97."cu'co gpf gf . "64"WUE0'E'8323'gv'ugs 0: "r tqj kdku' f kuetko kpcvqp"qp'vj g'dcuku'qhi'ci g+=

\*h+ Ckrtqv'cpf "Cky c{ "K r tqxgo gpv'Cev'qhi'3; : 4."\*6; "WUE"E'693."Ugevqp"69345+."cu' co gpf gf . "r tqj kdku'f kuetko kpcvqp'dcugf "qp'tceg."etggf . "eqmrt."pcvqpcn'qtki kp."qt'ugz+=

\*i + "Vj g'Ekxki'Tki j w'Tguqtcvqp" Cev'qhi'3; : 9."\*RN'322/42; +."\*Dtqcf gpgf "vj g'ueqr g." eqxgtci g"cpf "crr rncdkrkv{ "qhi'Vkrg'XKqhi'vj g'Ekxki'Tki j w'Cev'qhi'3; 86." Vj g'Ci g' F kuetko kpcvqp"Cev'qhi'3; 97"cpf "Ugevqp"726'qhi'vj g'T gj cdkrkcvqp"Cev'qhi'3; 95."d{ " gzer cpf kpi "vj g'f ghpkvqp"qhi'vj g'vgo u'Sr tqi tco u'qt "cev'xklgu"vq" kpenw g'cm'qhi'vj g" r tqi tco u'qt "cev'xklgu"qhi'vj g'Hgf gtcn'ckf "tgekr kgpv." uwd/tgekr kgpv"cpf "eqpvtcevqtu." y j gyj gt'uwej "r tqi tco u'qt "cev'xklgu"ctg'Hgf gtcn' "hwpf gf "qt"pqv+=

39DR060T0: '( '39DR060T0 3''

\*j + "Vlmg"KKcpf "KKqh"vj g"Co gtlecpu"y kj "F kudkklgu"Cev"y j lej "r tqj kdk" f luetko lpcvqp" qp" vj g" dcuku" qh" f kudkkl{ "lp" vj g" qr gtcvqp" qh" r wdrlc" gpvklgu" r wdrlc" cpf " r tkcvg" vcpur qtcvqp"u{ uvgu u" r rcegu"qh"r wdrlc"ceeqo o qf cvqp. "cpf "egtvc"lp"vgvlp"i "gpvklgu"\*64" WUE0E"34353/343: ; +cu"lo r rgo gpvgf "d{ "F gr ctvo gpv"qh"Vtcur qtcvqp"tgi wrcvqp" cv"6; "E0H0T0r ctu"59"cpf "5: ="

\*k+ "Vj g"Hgf gtcn"Cxlc"vqp"Cf o lpkutcvqp"u"P qpf luetko lpcvqp"ucvwwg"\*6; "WUE0E"69345+ "r tqj kdku" f luetko lpcvqp"qp" vj g"dcuku"qh"tceg. "eqmgt. "pcvqpncnqtli lp. "cpf "ugz+=""

\*l+ "Gzgewkxg"Qtfgt "34: ; : . "Hgf gtcn"Cevlqp"vq" Cf f tguu"Gpxkqpo gpvcnLwvleg"lp"O lpgtkv{ " Rqr wrcvqp"cpf "Nqy / lpego g"Rqr wrcvqp. "y j lej "gputgu" P qpf luetko lpcvqp"ci clpuv" o lpgtkv{ " r qr wrcvqp" d{ " f lueqwtci lpi " r tqi tco u" r rqlclgu. " cpf " cevklklgu" y kj " f kur tqr qtcvqpvcgn{ " j ki j "cpf "cf xgtug"j wo cp"j gcmj "qt"gpvklqpo gpvcnlgthgevu"qp"o lpgtkv{ " cpf "nqy / lpego g"r qr wrcvqp=""

\*m+ "Gzgewkxg" Qtfgt "35388. " K r tqxkpi " Ceegu" vq" Ugtxlegu" hqt" Rgtuqpu" y kj " Nko kgf " Gpi rkuj " Rtqlclgpe{ . " cpf " tguvklpi " ci gpe{ " i wlf cpeg. " pcvqpncnqtli lp" f luetko lpcvqp" lpenxf gu" f luetko lpcvqp" dgecvug" qh" Nko kgf " Gpi rkuj " r tqclclgpe{ " \*NGR-0" Vq" gputg" eqo r rlcpeg"y kj "Vlmg"XK" { qw"o wuv"vcng"tgcupcdrg"uvgr u"vq" gputg"y cv"NGR"r gtuppu" j cxg"o gcplpi hwnceegu"vq" { qwt"r tqi tco u"\*92"Hgf 0Tgi 0cv962: 9"vq"96322+=""

\*n+ "Vlmg"KZ "qh"vj g"Gf wecvqp"Co gpf o gpv"qh"3; 94. "cu"co gpf gf. "y j lej "r tqj kdku" { qw"ltqo " f luetko lpcvqp" dgecvug"qh"ugz"lp"gf wecvqp"r tqi tco u"qt"cevklklgu"\*42"WUE038: 3"gv" ugs-0"

\*o + "Vlmg"XKKqh"vj g"EkklTki j w"Cev"qh"3; 86"\*64"WUE0E"4222g"gv"ugs 0 "Rwd0N0: : /574+ "r tqj kdku" go r nq{ o gpv" f luetko lpcvqp" qp" vj g" dcuku" qh" tceg. "eqmgt. " tgrkl qp. "ugz. "qt" pcvqpncnqtli lp-0"

#### \*6+ Additional Title VI Assurances

\*\*The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable"

\*c+ Encwugu" hqt "F ggf u" Vtcurphtlpi "Wpklgf "Ucvgu" Rtqr gt v{ "327204C. "Cr r gpf kZ "D+ "

Vj g" hqny lpi "encwugu"y knldg" lpenxf gf "lp" f ggf u" ghgevlpi "qt" tgeqtf lpi "vj g" vcpuhgt" qh" tgcrlr tqr gt v{ . "utwewtgu. "qt" lo r tqxgo gpv"vj gtgqp. "qt" i tcvlpi "lpvgtgu"vj gtgklp"ltqo "vj g" Wpklgf "Ucvgu"r wtuwcpv"vq"vj g"r tqxklqp"qh" Cuwlcpeg"60"

"

P QY . "VJ GTGHQTG. "vj g" WUOF gr ctvo gpv"qh" Vtcur qtcvqp" cu"cwj qtk gf "d{ "ny "cpf " wrcvqp" vj g" eqpf klqp" vj cv" vj g" P qtvj " Ectqlpc" F gr ctvo gpv"qh" Vtcur qtcvqp" \*P EF QV+ " y knlceegr v"klmg"vq" vj g" rcpf u" cpf "o clpvc"lp" vj g" r tqclgeveqputwvgf "vj gtgqp"lp" ceeqtf cpeg" y kj "vj g" P qtvj " Ectqlpc" I gpgtcn" Cuugo dn{ . "vj g" Tgi wrcvqp" hqt" vj g" Cf o lpkutcvqp" qh" vj g" Hgf gtcn" Ck " J ki j y c{ " Rtqi tco . "cpf "vj g" r rqlclgu" cpf "r tqegf wtu" r tguetkdgf "d{ "vj g" Hgf gtcn" J ki j y c{ " Cf o lpkutcvqp" qh" vj g" WUOF gr ctvo gpv" qh" Vtcur qtcvqp" lp" ceeqtf cpeg" cpf "lp" eqo r rlcpeg"y kj "cm" tgs wktgo gpv" lo r qugf "d{ "Vlmg"6; . "Eqf g" qh" Hgf gtcn" Tgi wrcvqp. "WUOF gr ctvo gpv" qh" Vtcur qtcvqp. "Uwdklmg" C. " QHleg" qh" vj g" Ugetgxt{ . " Rctv" 43. " P qpf luetko lpcvqp" lp" Hgf gtcn{ /cuukvgf " r tqi tco u" qh" vj g" WUOF gr ctvo gpv" qh" Vtcur qtcvqp" r gtcvklpi "vq" cpf "ghgewc"lp" vj g" r tqxklqp" qh" Vlmg"XK" qh" vj g" EkklTki j w"Cev"qh"3; 86"\*9: "Ucv0474=64"WUE0E"4222f"vq"4222f /6+ "f qgu" j gtgd{ "tgo kug. "tgrgcug. "s wkerko "cpf "eqpxg{ "wpvq" vj g" P EF QV" cm" vj g" tki j v. "klmg" cpf " lpvgtgu" qh" vj g" WUOF gr ctvo gpv" qh" Vtcur qtcvqp" lp" cpf "vq" uclf "rcpf u" f guetkdgf "lp" Gzj kdk" C" cwcej gf "j gtgvq" cpf "o cf g" c" r ctvj gtgql0"

"

\*J CDGPF WO "ENCWUG+ "

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"

VQ"J CXG"CPF "VQ"J QNF "uckf"ncpf u"cpf "kpvtguu"vj gtgkp"wpvq"vj g"P qtvj "Ectqrkpc" F gr ctvo gpv'qh"Vtcur qtvcvkp" \*PEF QV+"cpf "ku'uueguuqtu"lqtgxgt. "uwlgev."j qy gxgt. "vq"vj g"eqxgpcpvu. "eqpf kklqpu. "tguvlevkqpu"cpf "tguvxcvkqpu"j gtgkp"eqpvckpgf "cu"lqmqy u. "y j lej "y knitgo ckp"kp"ghgev"lqt"vj g'r gtgkf "f wtkpi "y j lej "vj g'tgcrlr tqr gtv\ "qt "utwewtgu" ctg"wguf "lqt"r wtr qug"lqt"y j lej "Hgf gtcrlhkpcekrncuukxcpge"ku"gzvpgf gf "qt "lqt"cpqvj gt" r wtr qug"lpxqrkpi "vj g'r tqxkukqp"qh'uko knct "ugt xlegu"qt "dgpghku"cpf "y knidg"dlpf kpi "qp" vj g"P E F Q V. "ku'uueguuqtu"cpf "cuuki pu0"

Vj g"P E F Q V. "kp"eqpukf gtcvkqp"qh'vj g"eqpxg{ cpeg"qh'uckf "ncpf u"cpf "kpvtguu"kp"ncpf u. "f qgu"j gtgd{ "eqxgpcpv"cpf "ci tgg"cu" c"eqxgpcpv"twppkpi "y kj "vj g"ncpf "lqt"kuugh"ku" uueguuqtu"cpf "cuuki pu. "vj cv\*3+pq'r gtup"y kniqp"vj g'i tqwuf u'qhtceg. "eqm. "qt"pcvkpcn' qtki kp. "dg"gzexnf gf "ltqo "r ctvckr cvkqp"kp. "dg"f gpkgf "vj g"dgpghku"qh"qt "dg"qvj gty lug" uwlgev"vq" f kuetko kpcvkp"y kj "tgi ctf "vq"cp{ "hckk\{ "rcev"y j qm\ "qt"kp"r ctv'qp. "qxgt. "qt"wpf gt"uwej "ncpf u"j gtgd{ "eqpxg{ gf "].\_]cpf \_ " \*4+vj cv'vj g"P E F Q V"y kni'wg"vj g" ncpf u"cpf "kpvtguu"kp"ncpf u"cpf "kpvtguu"kp"ncpf u"uq"eqpxg{ gf. "kp"eqo r rckpeg"y kj "cm' tgs wktgo gpw"ko r qugf "d{ "qt"r wtuwcpv'vq"Vkn"6; . "Eqf g"qh'Hgf gtcn'Tgi wcvkqpu. "WUO' F gr ctvo gpv' qh' Vtcur qtvcvkp. "Uwlvkn" C. "Qhleg"qh'vj g"Ugetgvt{. "Rctv"43. "P qp/ f kuetko kpcvkp" kp" Hgf gtcn/cuukngf " r tqi tco u" qh' vj g" WUO' F gr ctvo gpv' qh' Vtcur qtvcvkp. "Ghgewcvkqp"qh'Vkn"XKqh'vj g"Ekkl'Tki j w"Cev'qh'3; 86. "cpf "cu'uckf " Tgi wcvkqpu"cpf "Cevu'o c{ "dg"co gpf gf "]. "cpf " \*5+vj cv'kp"vj g"gxgpv'qh'dtgej "qh'cp{ "qh' vj g'cdqxo/gpvkpgf "bpkf kuetko kpcvkp"eqpf kklqpu. "vj g'F gr ctvo gpv'v knj cxg"b tki j v'vq" gpvt "qt"tg/gpvt"uckf "ncpf u"cpf "hckk\gu"qp"uckf "ncpf. "cpf "vj cv'cdqxo" f guetldgf "ncpf " cpf "hckk\gu"y kni'vj gtgqp'tgxgtv'vq"cpf "xgu'kp"cpf "dgeqo g'vj g'cdunwg'r tqr gtv\ "qh'vj g" WUO'F gr ctvo gpv'qh'Vtcur qtvcvkp"cpf "ku'cuuki pu"cu'uwej "kpvtguv'gzknngf "r tkt"vq"vj ku" kpwtvcvkp\_0 "

"

\* Tgxgtvgt"enwug"cpf "tgrv"ncpi wci g"vq"dg"wguf "qpn\ "y j gp"kv'ku" f gyto kpgf "vj cv'uwej " c"enwug"ku'pgeguuct{ "kp"qtf gt"vq"o cng'engct "vj g'r wtr qug"qh'Vkn"XK"

\*d+ Enwugu"lqt"Vtcur qtvcvkp"qh'Tgcn'Rtqr gtv\ "Ces wktgf "qt"K r tqxgf "Wpf gt"vj g"Cevk\{. " Hckk\{. "qt"Rtqi tco " \*327204C. "Crr gpf kz "E+" "

Vj g"lqmqy kpi "enwugu"y knidg"lpenxf gf "kp" f ggf u. "necpugu. "ncugu. "r gto ku. "qt"uko knct " kpwtwo gpw" gpvtgf " kpvq" d{ " vj g" P qtvj " Ectqrkpc" F gr ctvo gpv' qh' Vtcur qtvcvkp" \*PEF QV+"r wtuwcpv'vq"vj g'r tqxkukqp"qh'Cuwtcpeg"9\*c+<

30 Vj g" \*i tcvpgg. "ngu. "r gto knng. "ge0'cu" cr r tqr tlcvg+"lqt"j ko ughlj gtugh "j kulj gt" j gktu. "r gtupcn'tgr tguvpcvkgu. "uueguuqtu"kp"kpvtguv. "cpf "cuuki pu. "cu" c"r ctv'qh'vj g" eqpukf gtcvkp"j gtgqh "f qgu"j gtgd{ "eqxgpcpv"cpf "ci tgg"]kp"vj g"ecug"qh' f ggf u"cpf " ncugu'cf f "\$cu" c"eqxgpcpv"twppkpi "y kj "vj g"ncpf \$ \_"vj cv<

39DR060T0: '( '39DR060T0 3''

\*10- k'p'v'j g'gxgpv'hceklkgu'ctg'eqputwevgf.'o clpvc'p'g'f.'qt'qv'j gty kug'qr gtcvgf'qp'v'j g' r tqr gtvl'f guetldgf'k'p'v'j ku'f'ggf.'h'egpug.'h'egcug.'r gto ku.'gve0'h'qt'c'r wtr qug'h'qt' y j lej'c'WUO'F gr ctvo gpv'qh'Vt'cpur qtcv'k'p'cev'k'k'v'.'h'ceklkgu'.'qt'r tqi tco'ku' gzvgpf gf'qt'h'qt'cp'qv'j g' r wtr qug'k'p'xq'k'p'v'j g' r tqx'k'k'p'v'qh'uko k'rt'ugt'x'legu'qt' d'g'p'gh'ku.'v'j g' i t'cp'v'g'g.'h'egpugg.'h'egugg.'r gto k'v'g'g.'gve0'y k'ri'o clpvc'p'c'p'f'qr gtcvg' uwe'j'h'ceklkgu'c'p'f'ugt'x'legu'k'p'eqo r r'k'c'peg'y k'j'c'm'it'gs w'kt'go gpw'ko r qugf'd{'v'j g' Cew'c'p'f'T'gi w'w'v'k'p'u'cu'o c{'d'g'co gp'f'gf'+'u'we'j'v'j c'v'p'q'r gtu'qp'qp'v'j g'i t'q'w'p'f'u' q'h'it'ceg.'eq'm'it.'qt'p'c'v'k'p'c'nd'q't'k'i k'p.'y k'ri'd'g'g'zen'w'f'gf'it'qo'r'c't'v'k'c'r'c'v'k'p'k'p.'f'g'p'k'g'f' v'j g'd'g'p'gh'ku'q'h'qt'd'g'qv'j gty kug'u'w'd'l'ge'v'g'f'v'q'f'k'uet'ko k'p'c'v'k'p'k'p'v'j g'w'ug'q'h'uck'f' h'ceklkgu'

40 Y k'j't'gur gev'v'q'h'egpugu.'h'egcugu.'r gto ku.'gve0'k'p'v'j g'gxgpv'qh'dt'g'cej'q'h'c'p{'q'h'v'j g' cd'q'x'g'P'q'p'f'k'uet'ko k'p'c'v'k'p'eq'x'g'p'c'p'v'u.'v'j g'P'EF'Q'V'y k'ri'j'c'x'g'v'j g't'k'i j v'v'q'v'g'to k'p'c'v'g' v'j g'h'egcug.'h'egpug.'r gto ku.'gve0'c'p'f'v'q'gp'v'gt.'t'g'gp'v'gt.'c'p'f't'gr qu'gu'u'uck'f'nc'p'f'u'c'p'f' h'ceklkgu'v'j g't'g'q'p.'c'p'f'j'q'f'v'j g'uc'o g'cu'k'h'v'j g'h'egcug.'h'egpug.'r gto ku.'gve0'j'c'f'p'g'x'g't' d'g'g'p'o c'f'g'qt'ku'w'g'f'0, ''

50 Y k'j't'gur gev'v'q'c'f'ggf.'k'p'v'j g'gxgpv'qh'dt'g'cej'q'h'c'p{'q'h'v'j g'cd'q'x'g'P'q'p'f'k'uet'ko k'p'c'v'k'p'eq'x'g'p'c'p'v'u.'v'j g'P'EF'Q'V'y k'ri'j'c'x'g'v'j g't'k'i j v'v'q'gp'v'gt'qt't'g'gp'v'gt'v'j g'nc'p'f'u'c'p'f' h'ceklkgu'v'j g't'g'q'p.'c'p'f'v'j g'cd'q'x'g'f'guet'ldgf'nc'p'f'u'c'p'f'h'ceklkgu'y k'ri'v'j g't'g'w'q'p't'g'x'g't'v' v'q'c'p'f'x'gu'v'k'p'c'p'f'd'ge'q'o g'v'j g'c'd'u'q'nw'g'r t'q'r gtvl'q'h'v'j g'P'EF'Q'V'c'p'f'ku'cu'k'i pu'0, ''

\* T'g'x'g't'v'gt'erc'w'ug'c'p'f't'g'rc'v'g'f'nc'p'i w'ci g'v'q'd'g'w'ug'f'q'p'q'f'y j gp'k'v'k'f'g'v'g'to k'p'g'f'v'j c'v'u'we'j' c'erc'w'ug'k'i'p'g'eg'u'uct{'v'q'o c'ng'erc't'v'j g'r wtr qug'q'h'V'k'ng'X'K'0''

\*e+ E'rc'w'ug'u'h'qt'E'q'p'ut'w'ev'k'p'f'w'ug'l'Ce'gu'u'v'q'T'g'c'ri'R't'q'r gtvl'C'es w'kt'gf'W'p'f'gt'v'j g'C'ev'k'k'v'.' h'ceklkgu'.'qt'R't'q'i tco '\*327204C.'C'r r gp'f'k'z'F'+''

V'j g'h'q'm'y k'p'i'erc'w'ugu'y k'ri'd'g'k'p'en'w'f'gf'k'p'f'gg'f'u.'h'egpugu.'r gto ku.'qt'ulo k'rt' k'p'ut'wo gpw'ci t'g'go gpw'gp'v'gt'gf'k'p'v'q'd{'v'j g'P'q't'v'j'Ec't'q'rd'p'c'F'gr ctvo gpv'qh' Vt'cpur qtcv'k'p'P'EF'Q'V+'r wtu'w'c'p'v'q'v'j g'r tqx'k'k'p'u'qh'C'uu'w't'c'peg'9'd'+''

30 V'j g'i t'cp'v'g'g.'h'egpugg.'r gto k'v'g'g.'gve0'cu'cr r t'q'r t'k'c'v'g'+'h'qt'j'ko u'g'h'lj'gt'ug'h'j'k'ul'j'gt' j'g'k'u.'r gtu'q'p'c'nd'gr t'g'ug'p'c'v'k'x'gu.'u'we'eg'u'q't'u'k'p'k'p'v'gt'g'v.'c'p'f'cu'k'i pu.'cu'c'r'c't'v'q'h'v'j g' eq'p'uk'f'gt'c'v'k'p'j'gt'g'q'h'f'q'gu'j'gt'g'd{'eq'x'g'p'c'p'v'c'p'f'ci t'gg'k'p'v'j g'ec'ug'q'h'f'gg'f'u'c'p'f' h'egcugu'c'f'f'.'\$cu'c'eq'x'g'p'c'p'v't'w'p'k'p'i'y k'j'v'j g'nc'p'f'\$+'v'j c'v'\*3+'p'q'r gtu'qp'qp'v'j g'i t'q'w'p'f' q'h'it'ceg.'eq'm'it.'qt'p'c'v'k'p'c'nd'q't'k'i k'p.'y k'ri'd'g'g'zen'w'f'gf'it'qo'r'c't'v'k'c'r'c'v'k'p'k'p.'f'g'p'k'g'f'v'j g'd'g'p'gh'ku'q'h'qt'd'g'qv'j gty kug'u'w'd'l'ge'v'g'f'v'q'f'k'uet'ko k'p'c'v'k'p'k'p'v'j g'w'ug'q'h'uck'f'h'ceklkgu.' \*4+'v'j c'v'k'p'v'j g'eq'p'ut'w'ev'k'p'q'h'c'p{'k'o r tq'x'go gpw'qp.'q'x'g't.'qt'w'p'f'gt'+'u'we'j'nc'p'f'.'c'p'f' v'j g'h'w't'p'k'uj k'p'i'q'h'ugt'x'legu'v'j g't'g'q'p.'p'q'r gtu'qp'qp'v'j g'i t'q'w'p'f'q'h'it'ceg.'eq'm'it.'qt'p'c'v'k'p'c'nd'q't'k'i k'p.'y k'ri'd'g'g'zen'w'f'gf'it'qo'r'c't'v'k'c'r'c'v'k'p'k'p.'f'g'p'k'g'f'v'j g'd'g'p'gh'ku'q'h'qt' q'v'j gty kug'd'g'u'w'd'l'ge'v'g'f'v'q'f'k'uet'ko k'p'c'v'k'p'.'\*5+'v'j c'v'v'j g'i t'cp'v'g'g.'h'egpugg.'h'egugg.'r gto k'v'g'g.'gve0'y k'ri'w'ug'v'j g'r t'go k'gu'k'p'eqo r r'k'c'peg'y k'j'c'm'i'q'v'j g't'g's w'kt'go gpw'ko r qugf'd{'qt'r wtu'w'c'p'v'q'v'j g'Cew'c'p'f'T'gi w'w'v'k'p'u'cu'co gp'f'gf.'ug'v'h'q't'v'j k'p'v'j ku' C'uu'w't'c'peg'0'

40 Y k'j't'gur gev'v'q'h'egpugu.'h'egcugu.'r gto ku.'gve0'k'p'v'j g'gxgpv'qh'dt'g'cej'q'h'c'p{'q'h'v'j g' cd'q'x'g'P'q'p'æ'f'k'uet'ko k'p'c'v'k'p'eq'x'g'p'c'p'v'u.'v'j g'P'EF'Q'V'y k'ri'j'c'x'g'v'j g't'k'i j v'v'q'v'g'to k'p'c'v'g' v'j g'h'egpug.'r gto ku.'gve0'cu'cr r t'q'r t'k'c'v'g'+'c'p'f'v'q'gp'v'gt'qt't'g'gp'v'gt'c'p'f't'gr qu'gu'u'uck'f'nc'p'f'c'p'f'v'j g'h'ceklkgu'v'j g't'g'q'p.'c'p'f'j'q'f'v'j g'uc'o g'cu'k'h'uck'f'h'egpug.'r gto ku.'gve0'cu' cr r t'q'r t'k'c'v'g'+'j'c'f'p'g'x'g't'd'g'g'p'o c'f'g'qt'ku'w'g'f'0, ''

39DR060T0: "( '39DR060T0 3"

50 Y kj 't'gur gev'vq'f'ggf u.'lp'vj g'gxgpv'qh'dt'gcej 'qh'cp{ 'qh'vj g'cdq'xg'P qpf kuetlo kpcv'kp"  
 eqxgpcpvu." yj g"PEF QV"y kn'vj gtg"wr qp"tgxgtv'vq"cpf "xguv'lp"cpf "dgeo q g" yj g"  
 cduq'wng'r tqr gtv{ 'qh'vj g'PEF QV'cpf 'ku'cuuk pu0, "

\*; Tgxgtvgt'ewug'cpf 'tgrv'gf 'ncpi wci g'vq'dg'wugf 'qpn{ 'y j gp'k'ku'f gygto kpgf 'vj cv'uwej "  
 c'ewug'ku'pgeguuct{ 'vq'o cng'engct 'yj g'r wtr qug'qh'Vkmg'XK0"

"

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"

**STANDARD SPECIAL PROVISION**

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**ON-THE-JOB TRAINING**

\*32/38/29+\*Tgx06/43/37+ "

\ /32 "

**Description**

"

Vj g'P qtvj 'Ectqlpc'F gr ctwo gpv'qh'Vtcur qtvcvqp'y kn'cf o kpxgt'c'ewuqo 'xgtukp'qh'vj g'Hgf gtcn' Qp/vj g/Lqd'Vtclpki '\*QLV+'Rtqi tco . 'eqo o qpn' 'tghgtgf 'vq'cu'vj g'Cngtpcvg'QLV'Rtqi tco 0'"Cm' eqptcevqtu'\*gzkupi "cpf "pgy eqo gtu+'y kn'dg'cwqo cvlcm' 'r rceg' "kp'vj g'Cngtpcvg'Rtqi tco 0'" Ucpfctf 'QLV'tgs wktgo gpv'u'r lccm' 'cuuqekvgf 'y kj 'lpf kxf wcnr tqlgeu'y kn'pq'rupi gt'dg'cr r rkgf " cv'vj g'r tqlgev'rgxgt0'"kpuvgf . "vj gug'tgs wktgo gpv'y kn'dg'cr r rccdg'qp"cp'cppwcn'dcuku'hqt "gcej " eqptcevqt'cf o kpxgtgf 'd{ 'vj g'QLV'Rtqi tco 'O cpci gt0'

"

Qp'vj g'Lqd'Vtclpki 'uj cni'o ggv'vj g'tgs wktgo gpv'qh'45'EHT'452829\*d+.'45'WUE'o'Ugevkp'362." vj ku'r tqxkukp'cpf 'vj g'Qp/vj g/Lqd'Vtclpki 'Rtqi tco 'O cpwcn0'

"

Vj g'Cngtpcvg'QLV'Rtqi tco 'y kn'cmjy "c'eqptcevqt'vq'vclp'go r rj{ ggu'qp'Hgf gtcn'Ucvg'cpf " rtkxcvgn'hwpgf 'r tqlgeu'mecvgf 'lp'P qtvj 'Ectqlpc0'"J qy gxgt.'r tklkv{ 'uj cni'dg'i kxgp'vq'vclpki " go r rj{ ggu'qp'PEF QV'Hgf gtcn'Clf 'hwpgf 'r tqlgeu0'

"

**Minorities and Women**

"

Fgxgrupi . 'vclpki "cpf 'wri tcf lpi 'qhi'o kpxtkgu'cpf 'y qo gp'vqy ctf 'lqwtpg{ o cp'rgxgn'ucwu'ku' c'r tko ct{ 'qdlgev'xg'qh'vj ku'r gekn'vclpki 'r tqxkukp0'Ceeqtf lpi n{ . 'vj g'Eqptcevqt'uj cni'o cng'gxgt{ " ghqt'vq'gptqni'o kpxtkv{ 'cpf 'y qo gp'cu'vclpggu'vq'vj g'gzvgpv'vj cv'wej 'r gtuppu'ctg'cxckcdng'y kj kp' c'tgcuqpcdng'ctgc'qhtgetwko gpv0'Vj ku'vclpki 'eqo o ko gpv'ku'pqv'kpgpf gf . 'cpf 'uj cni'pqv'dg'wugf . " vq'f kuetko kpcv'ci clpuv'cp{ 'cr r rccpv'hqt'vclpki . 'y j gyj gt'c'o go dgt'qhi'c'o kpxtkv{ 'i tqwr "qt'pqv0'

"

**Assigning Training Goals**

"

Vj g'F gr ctwo gpv'vj tqwi j 'vj g'QLV'Rtqi tco 'O cpci gt.'y kn'cuuki p'vclpki 'i qcn'hqt'c'ecrgpf ct'{ gct " dcugf 'qp'vj g'eqptcevqtu'r cuv'vj tgg'{ gctu'cevkxkv{ 'cpf 'vj g'eqptcevqtu'cpvlekv'w'eqo lpi '{ gctau' cevkv{ 'y kj "y g'F gr ctwo gpv0'"Cv'vj g'dgi kpxlpi 'qh'gcej " { gct."cm'eqptcevqtu'grki kldng'y kn'dg' eqpcev'gf 'd{ 'vj g'F gr ctwo gpv'vq'f gvgto kpg'vj g'pwo dgt'qh'vclpggu'vj cv'y kn'dg'cuuki pgf 'hqt'vj g' w'eqo lpi 'ecrgpf ct'{ gct0'"Cv'vj cv'vko g'vj g'Eqptcevqt'uj cni'gpvt'kvq'cp'ci tgggo gpv'y kj "vj g' F gr ctwo gpv' vq' r tqxkf g" c" ugr/ko r qugf " qp/vj g/Lqd' vclpki " r tqi tco " hqt" vj g' ecrgpf ct" { gct0" Vj ku'ci tgggo gpv'y kn'penxf g'c'ur gekk'pwo dgt'qh'cppwcn'vclpki 'i qcn'ci tggf 'vq'd{ "dqvj "r ctvku0" Vj g'pwo dgt'qh'vclpki 'cuuki po gpv'o c{ 'tapi g'ltqo "3'vq'37'r gt'eqptcevqt'r gt'ecrgpf ct'{ gct0'Vj g' Eqptcevqt'uj cni'uki p'cp'ci tgggo gpv'vq'hwtkn'vj gk'cppwcn' qcn'hqt'vj g'{ gct0'

"

39DR06T0: '( '39DR06T0 3''

**Training Classifications**

''

Vj g"Eqpvtcevt"uj cml'r tqxkf g"qp/vj g/lqd"vclpki "clo gf"cv'f gxgnr kpi "hwn' lqwtpg{o cp"rgxgn' y qtngtu"lp"vj g"eqputwekqp"etchlqr gtcvt"r quklqpu0''Rtghgtgpeg"uj cml' dg"i kxgp"vq"rtqxf kpi "vclpki "lp"vj g'hqny kpi "unkngf'y qtnl'encukhecvlqpu<"

''

Gs wlr o gpv'Qr gtcvtu''

Qhleg'Gpi kpggtu''

VtwenlF tkgtu''

Guko cvqtu''

Ectr gpvtu''

Kqp"lTgkphqtelki "Uvggn'Y qtngtu''

Eqpetgv'Hpkuj gtu''

O gej cpleu''

Rlr g'Nc{gtu''

Y grf gtu''

''

Vj g"F gr ctvo gpv'j cu"guvdrkj gf"eqo o qp"vclpki "encukhecvlqpu"cpf"vj gkt"tgr gevkg"vclpki "tgs wltgo gpw'vj cv'o c{"dg'wugf'd{"vj g"eqpvtcevtu0''J qy gxgt."vj g"encukhecvlqpu"guvdrkj gf"ctg'pqv' cml'penwukg0''Y j gtg"vj g"vclpki "ku"qtlgpvgf"vqy ctf"eqputwekqp"cr r hecvlqpu."vclpki "y kml'dg" cmqy gf"lp'hqy gt/rgxgn'o cpci go gpv'r quklqpu'wej "cu'qhlleg'gpi kpggtu'cpf"guvdrkj cvqtu0'Eqpvtcevtu" uj cml'uwo k'pgy "encukhecvlqpu"ht"ur gekhe"lqd"hpvevqpu"vj cv'vj gkt"go r m{ggu'ctg'r gthqto kpi 0'' Vj g"F gr ctvo gpv'y kml'tgxlg'y "cpf"tgeqo o gpf"ht"ceegr vcepg"vq"HJ Y C"vj g'pgy "encukhecvlqpu" r tqr qugf"d{"eqpvtcevtu."kl'cr r hecdng0''P gy "encukhecvlqpu"uj cml'o gg'vj g'hqny kpi "tgs wltgo gpw<"

''

Rtqr qugf"vclpki "encukhecvlqpu"ctg"tgcupcdng"cpf"tgcruk'e dcugf"qp"vj g"lqd"unkml' encukhecvlqpu"pggf u."cpf"

''

Vj g"pwo dgt"qh"vclpki "j qwtu"ur gekhgf"lp"vj g"vclpki "encukhecvlqpu"ku'eqpukngpv'y kj" eqo o qp"rtcevegu"cpf"rtqxf gu"gpqwi j "vlo g"ht"vj g"vclpgg"vq"qdvclp"lqwtpg{o cp"rgxgn' uvcwu0'

''

Vj g"Eqpvtcevt"o c{"cmqy "vclpggu"vq"dg"vclpgf"d{"c"uwdeqpvtcevt"rtqxf gf"vj cv'vj g"Eqpvtcevt" tgvclpu'rtlo ct{"tgr qpukdkw{"ht"o gg'kpi "vj g"vclpki "cpf"vj ku'rtqxkukqp"ku'o cf g'cr r hecdng"vq"vj g" uwdeqpvtcevt0''J qy gxgt."qpn{"vj g"Eqpvtcevt"y kml'tgegkxg"etgf k'vqy ctf u"vj g"cppwcn'i qcn'ht"vj g" vclpgg0''

''

Y j gtg'hgcukdng."47"r gtegpv'qh'cr r tgpvegu"qt"vclpggu"lp"gej "qeewr cvkqp"uj cml'dg"lp"vj gkt"htuv'{gct" qh'cr r tgpveguj k"qt"vclpki 0''Vj g"pwo dgt"qh"vclpggu"uj cml' dg"f kmtkdwgf"co qpi "vj g"y qtnl' encukhecvlqpu"qp"vj g"dcuku"qh'vj g"eqpvtcevtu"pggf u"cpf"vj g"cxckcdkkl{"qh'lqwtpg{o gp"lp"vj g" xctkqu"encukhecvlqpu'y kj kpi c'tgcupcdng"ctgc"qh'tgetwko gpv0''

''

P q"go r m{gg'uj cml'dg"go r m{gf"cu"vclpgg"lp"cp{"encukhecvlqpu"lp"y j lej"vj g{"j cxg'uweeguuhwn{" eqo r ngvgf"vclpki "eqwtug"ngcf kpi "vq"lqwtpg{o cp"rgxgn' uvcwu"qt"lp"y j lej"vj g{"j cxg"dggp" go r m{gf"cu"lqwtpg{o cp0''

''



39DR60T0: "( '39DR60T0 3"

## Records and Reports

"

Vj g'Eqpvtcevqt'uj cml'o clpvc'p"gtqmo gpv."o qpvj n' "cpf "eqo r ngvqp'tgr qtu'f qewo gpv'pi "eqo r cp{ "eqo r rlcpeg"wpf gt "vj gug"eqpvtcev'f qewo gpv'0" Vj gug"f qewo gpv' "cpf "cp{ "qvj gt"lphqto cvkqp"cu" tgs wgv'gf "uj cml'dg'wdo kv'gf "v'j g'QLV'Rtqi tco "O cpci gt0"

"

W'qp"eqo r ngvqp"cpf "i tcf wcvqp"qh'vj g'r tqi tco . "vj g'Eqpvtcevqt'uj cml'r tqx'kf g"gej "vtclpgg'y kj "c"egt'v'k'ecvqp'Egt'v'k'ecv'uj qy lpi "vj g'v'r g'cpf "ngpi vj "qh'vtclp'pi "ucv'k'cevqt'k' "eqo r ngv'gf 0"

"

## Trainee Interviews

Cml'vtclpggu"gtqmgf "lp"vj g'r tqi tco "y kml'tgegk'g"cp"kp'k'cn'cpf "Vtclpgg'Rquv'i tcf wcv'g"lpv'gt'x'ky "eqpf wv'gf "d{ "vj g'QLV'r tqi tco "ucv'h0"

"

## Trainee Wages

"

Eqpvtcevqtu'uj cml'eqo r gpucv'g"vtclpggu"qp"c"i tcf wcv'pi "r c{ "uecrg"dcugf "w'qp"c"r gtegp'ci g"qh'vj g"r tgx'cl'pi "o k'p'ko wo "lqwt'pg{ o cp'y ci gu"Fxku/Dceqp"Cev#0"O k'p'ko wo "r c{ "uj cml'dg"cu"lq'ny u<"

"

82'r gtegpv'	qh'vj g'lqwt'pg{ o cp'y ci g'hqt "vj g'h'uv'j cml'qh'vj g'vtclp'pi "r gt'kf "
97'r gtegpv'	qh'vj g'lqwt'pg{ o cp'y ci g'hqt "vj g'v'j kf "s wctv'gt"qh'vj g'vtclp'pi "r gt'kf "
; 2'r gtegpv'	qh'vj g'lqwt'pg{ o cp'y ci g'hqt "vj g'v'uv's wctv'gt"qh'vj g'vtclp'pi "r gt'kf "

"

Kp"pq"lpucpeg"uj cml'c"vtclpgg"dg"r cl'f "ngv'v'j cp"vj g"ng'ecr'o k'p'ko wo "y ci g0" Vj g'Eqpvtcevqt'uj cml'cf j gt'g"v'j g'o k'p'ko wo "j qwt'n' "y ci g"tcv'g"vj cv'y kml'ucv'k'h{ "dq'vj "vj g"PE" F gr ctwo gpv'qh'Ncdqt" \*PEF QN+ "cpf "vj g'F gr ctwo gpv'0"

"

## Achieving or Failing to Meet Training Goals

"

Vj g'Eqpvtcevqt'y kml'dg"et'gf k'gf "hqt"gej "vtclpgg"go r m'g'f "d{ "j ko "qp"vj g'eqpvtcev'y qtm'y j q"ku" ewt'g'p'n{ "gtqmgf "qt"dgeqo gu"gtqmgf "lp"cp"cr r tqx'gf "r tqi tco "cpf "y j q"tgegk'gu"vtclp'pi "hqt"cv" ng'cu'v'72'r gtegpv'qh'vj g'ur gek'le"r tqi tco "tgs w'k'go gpv'0" Vtclpggu'y kml'dg"cm'qy gf "v'q"dg"vtcpuh'gtt'gf "dgwy ggp'r tq'lgew'k'h'tgs w'k'gf "d{ "vj g'Eqpvtcevqt'v'uej gf w'gf "y qtm'q'cf "v'q"o ggv'vtclp'pi "i qcu'0"

"

K'ic"eqpvtcevqt'v'k'nu'v'q"cwclp"vj g'k'vtclp'pi "cu'ki po gpv'v'ht "vj g'ec'rg'pf ct"{ gct. "vj g{ "o c{ "dg"vcn'gp"qh'h" vj g"PEF QV'v'Dk'f gtu'Nku'0"

"

## Measurement and Payment

"

P q"eqo r gpucv'qp'y kml'dg"o cf g'hqt"r tqx'kf lpi "tgs w'k'gf "vtclp'pi "lp"cee'q'tf c'peg'y kj "vj gug"eqpvtcev'f qewo gpv'0"

"

**PROJECT SPECIAL PROVISION**

\*32/3: /; 7+\*Tgx05/43/39+ "

\ /3"

**PERMITS**

"

Vj g"Eqpvtcevtu"cwgpvkp"ku"fkgevgf "vq"vj g"hmny lpi "r gto ku."y j lej "j cxg"dggp"kuwgf "vq"vj g" F gr ctwo gpv'qh'Vtcur qtcevqp"d{ "vj g"cwj qtk{ "i tcvlpi "vj g'r gto k0'

"

**PERMIT**

**AUTHORITY GRANTING THE PERMIT**

F tgf i g"cpf "Hm'cpf lqt "" Y qtnlp"P cxi cdirg"Y cvgtu"*626+ "	W0U0Cto { "Eqtr u'qh'Gpi kpggtu"
Y cvgt "S wcrk{ "*"623+ "	F kklukp"qh'Gpxktqpo gpv'ci'O cpci go gpv."F GS " Ucv'g'qh'P qt vj "Ectqrkpc"
Dwhgt "Egt wkecvqp"	F kklukp"qh'Gpxktqpo gpv'ci'O cpci go gpv."F GS " Ucv'g'qh'P qt vj "Ectqrkpc"

"

Vj g"Eqpvtcevt"uj cm'eqo r n{ "y kj "cm'cr r rdecdirg"r gto k'eqpf kklupu"fwlpi "eqputwevqp"qh'vj ku" r tqlgev0"Vj qug'eqpf kklupu"o ctngf "d{ "\*"ctg'vj g'tgur qpukdkk{ "qh'vj g'F gr ctwo gpv'cpf "vj g'Eqpvtcevt" j cu'pq"tgur qpukdkk{ "kp"ceeqo r rkuj lpi "vj qug'eqpf kklupu0'

"

Ci gpw'qh'vj g'r gto kvlpi "cwj qtk{ "y knlr gtlqf lecm{ "lpur gev'vj g'r tqlgev'ht "cf j gtgpeg"vq"vj g'r gto ku0'

"

Vj g"Eqpvtcevtu"cwgpvkp"ku"cnq"fkgevgf "vq"Ctvlrgu"329/32"cpf "329/35"qh'vj g"2018"Standard Specifications"cpf "vj g'hmny lpi <

"

Uj qwf "vj g'Eqpvtcevt"r tqr qug"vq"wkkl g'eqputwevqp"o gvj qf u"\*uwej "cu'vgo r qtct { "utwewtgu'qt"Hm' lpi"y cvgtu"cpf lqt"y gwcpf u"ht"j cwl'tqcf u."y qtn'r rvlhtu u."eqhgtf co u."gve0"pqv'ur gekkecm{ " kf gpv'htgf "lp"vj g'r gto k'kpf kklf wcn"i gpgtcn"qt"pcvqpy kf g+ "cwj qtk lpi "vj g'r tqlgev'k'uj cm'dg"vj g" Eqpvtcevtu"tgur qpukdkk{ "vq"eqqtf kpcvg"y kj "vj g"Gpi kpggt"vq"fgvto kpg"y j cv."kl'cp{ ."cf f kklpcn' r gto k'cevqp"ku'tgs wktgf 0"Vj g'Eqpvtcevt"uj cm'cnq"dg'tgur qpukdrg'ht"lpklcvlpi "vj g'tgs wguv'ht"vj g" cwj qtk cvlqp"qh'uwej "eqputwevqp"o gvj qf "d{ "vj g'r gto kvlpi "ci gpe{ 0" "Vj g'tgs wguv'uj cm' dg" uwd0 kvgf "vj tqwi j "vj g"Gpi kpggt0"Vj g'Eqpvtcevt"uj cm'pqv'wkkl g"vj g'eqputwevqp"o gvj qf "wpvkl'k" ku"cr r tqxgf "d{ "vj g'r gto kvlpi "ci gpe{ 0" "Vj g'tgs wguv'pqto cm{ "vngu"cr r tqzko cvgn{ "82"f c{ u"vq" r tqegu="j qy gxgt."pq"gzvpukqpu"qh'vko g"qt"cf f kklpcn'eqo r gpucvqp"y kn'dg"i tcvvgf "ht"f gtr{ u" tguvnlpi "htqo "vj g'Eqpvtcevtu"tgs wguv'ht"cr r tqxcn'qh'eqputwevqp"o gvj qf u"pqv'ur gekkecm{ " kf gpv'htgf "lp"vj g'r gto k0'

"

**Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the restricted waters, wetlands or buffer zones, provided that activities outside those areas is done in such a manner as to not affect the restricted waters, wetlands or buffer zones.**

**NATIONWIDE PERMIT 3**  
**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS**  
**FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS**  
**FEDERAL REGISTER**  
**AUTHORIZED MARCH 19, 2017**

"

**Maintenance.** \*c+Vj g'tgr ckt. 'tgi cdkkscvkqp. 'qt'tgr mrego gpv'qh'cp{ 'r t g x l q w u n { " c w j q t k g f . " ewttgpvn{ 'ugt x l e g c d r g ' u t w e w t g ' q t ' h k m ' q t ' q h ' c p { ' e w t t g p v n { ' u g t x l e g c d r g ' u t w e w t g ' q t ' h k m ' c w j q t k g f " d { " 55 " E H T " 55205 . ' r t q x k f g f ' y c v ' y j g ' u t w e w t g ' q t ' h k m ' k u ' p q v ' v q ' d g ' r w ' v q ' w u g u ' f k h g t k p i ' h t q o ' y j q u g " w u g u ' u r g e k h g f ' q t ' e q p v g o r m e v g f ' h q t ' k ' l p ' y j g ' q t k i k p c n r g t o k ' q t " y j g ' o q u v ' t g e g p v n { " c w j q t k g f " o q f k h e c v k p u 00 k p q t ' f g x k c v k p u ' l p ' y j g ' u t w e w t g u " e q p h k i w t c v k p q t ' h k m f " c t g c . ' l p e n m f k p i ' y j q u g " f w g ' v q ' e j c p i g u ' l p ' o c v g t k c m . ' e q p u t w e v k p " v e j p l s w g u . ' t g s w k t g o g p w ' q h ' q y j g t ' t g i w r c v q t { " c i g p e k g u . ' q t ' e w t t g p v ' e q p u t w e v k p ' e q f g u ' q t " u c h g v { ' u c p f c t f u ' y j c v ' c t g ' p g e g u a c t { ' v q ' o c n g ' y j g " t g r c k t . ' t g i c d k k s c v k p . ' q t ' t g r m r e g o g p v ' q h ' y j g ' u t w e w t g ' q t ' h k m ' u w e j " o q f k h e c v k p u . ' l p e n m f k p i " y j g ' t g o q x c n ' q h ' o c v g t k c n i ' h t q o ' y j g ' u t g c o ' e j c p p g n ' o w u v ' d g " k o o g f k c v g n { ' c f l c e g p v ' v q ' y j g ' r t q l g e v ' V j k u ' P Y R ' c n u q ' c w j q t k g u ' y j g ' t g o q x c n ' q h ' c e e w o w r c v g f " u g f k o g p v ' c p f ' f g d t k u ' y k j k p . ' c p f ' l p ' y j g ' l o o g f k c v g ' x l e k p k v { ' q h ' y j g ' u t w e w t g ' q t ' h k m ' V j k u ' P Y R " c n u q ' c w j q t k g u ' y j g ' t g r c k t . ' t g i c d k k s c v k p . ' q t ' t g r m r e g o g p v ' q h ' y j q u g ' u t w e w t g u ' q t ' h k m ' f g u t q { g f ' q t " f c o c i g f " d { ' u w q t o u . ' h m q f u . ' h k t g ' q t ' q y j g t ' f k u e t g w g ' g x g p w . ' r t q x k f g f ' y j g ' t g r c k t . ' t g i c d k k s c v k p . ' q t " t g r m r e g o g p v ' k u ' e q o o g p e g f . ' q t ' k u ' w p f g t ' e q p v c e v ' v q ' e q o o g p e g . ' y k j k p ' y q { ' g c t u ' q h ' y j g ' f c v g ' q h " y j g k t ' f g u t w e v k p ' q t ' f c o c i g 0 l p ' e c u g u ' q h ' e c v u t q r j k e ' g x g p w . ' u w e j " c u j w t t k e c p g u ' q t " v q t p c f q g u . " y j k u ' y q / { g c t ' h k o k ' o c { ' d g ' y c k x g f ' d { ' y j g ' f k u t l e v ' g p i k p g g t . ' r t q x k f g f ' y j g ' r g t o k w g g ' e c p " f g o q p u t c v g ' h w p f k p i . ' e q p v c e v ' q t ' q y j g t ' u k o k r c t ' f g r c { u 0 "

\*d+ Vj k u ' P Y R ' c n u q ' c w j q t k g u ' y j g ' t g o q x c n ' q h ' c e e w o w r c v g f ' u g f k o g p w ' c p f ' f g d t k u " q w u l f g ' y j g ' l o o g f k c v g ' x l e k p k v { ' q h ' g z k u k p i ' u t w e w t g u " g 0 0 ' d t k f i g u . ' e w r x g t v g f ' t q c f ' e t q u u k p i u . " y c v g t ' l p v c n g ' u t w e w t g u . ' g v e 0 0 ' V j g ' t g o q x c n ' q h ' u g f k o g p v ' k u ' h k o k g f ' v q ' y j g ' o k p k o w o ' p g e g u a c t { ' v q " t g u q t g ' y j g ' y c v g t y c { ' l p ' y j g ' x l e k p k v { ' q h ' y j g ' u t w e w t g ' v q ' y j g ' c r r t q z k o c v g ' f k o g p u k p u ' y j c v ' g z k u g f " y j g p ' y j g ' u t w e w t g ' y c u ' d w k n . ' d w ' e c p p q v ' g z v g p f " h c t y j g t ' y j c p ' 422 ' h g g v l p ' c p { ' f k t g e v k p ' h t q o ' y j g " u t w e w t g 0 V j k u ' 422 ' h q q v ' h k o k ' f q g u ' p q v ' c r r n { ' v q ' o c k p v g p c p e g ' f t g f i k p i ' v q ' t g o q x g ' c e e w o w r c v g f " u g f k o g p w ' d m e n k p i ' q t ' t g u t l e v k p i " q w h c m i c p f ' l p v c n g ' u t w e w t g u ' q t ' v q ' o c k p v g p c p e g ' f t g f i k p i ' v q " t g o q x g ' c e e w o w r c v g f ' u g f k o g p w ' h t q o ' e c p c n i ' c u u q e k c v g f ' y k j ' q w h c m i c p f ' l p v c n g ' u t w e w t g u 0 C m i ' f t g f i g f ' q t " g z e c x c v g f ' o c v g t k c n i ' o w u v ' d g ' f g r q u k x g f ' c p f ' t g v c k p g f ' l p ' c p ' c t g c ' y j c v j c u ' p q ' y c v g t u ' q h " y j g ' W p k g f ' U c v g u ' w p r g u u ' q y j g t y k u g ' u r g e k h e c m { ' c r r t q x g f ' d { ' y j g ' f k u t l e v ' g p i k p g g t ' w p f g t ' u g r c t c v g " c w j q t k c v k p p 0 "

\*e+ Vj k u ' P Y R ' c n u q ' c w j q t k g u ' v g o r q t c t { ' u t w e w t g u . ' h k m . ' c p f ' y q t m ' l p e n m f k p i ' y j g " w u g ' q h " v g o r q t c t { ' o c u . ' p g e g u a c t { ' v q ' e q p f w e v ' y j g ' o c k p v g p c p e g ' c e v x k v { 0 C r r t q r t k c v g " o g c u w t g u ' o w u v ' d g " v c n g p ' v q ' o c k p v c l p ' p q t o c n i f q y p u t g c o ' h m y u ' c p f ' o k p k o k g ' h m q f k p i ' v q ' y j g ' o c z k o w o ' g z v g p v " r t c e v k e c d r g . ' y j g p ' v g o r q t c t { ' u t w e w t g u . ' y q t m ' c p f ' f k u e j c t i g u . " l p e n m f k p i ' e q h g t f c o u . ' c t g " p g e g u a c t { ' h q t ' e q p u t w e v k p ' c e v x k k l g u . ' c e e g u u ' h k m . ' q t ' f g y c v g t k p i " q h ' e q p u t w e v k p ' u k g u 0 ' V g o r q t c t { ' h k m ' o w u v ' e q p u k u v ' q h ' o c v g t k c n i . ' c p f ' d g ' r m e g f ' l p ' c ' o c p p g t . ' y j c v y k n i p q v ' d g ' g t q f g f ' d { " g z r g e v g f ' j k i j ' h m y u 0 C h g t ' e q p f w e v k p i ' y j g " o c k p v g p c p e g ' c e v x k v { . ' v g o r q t c t { ' h k m ' o w u v ' d g "

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## NATIONWIDE PERMIT GENERAL CONDITIONS

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Vj g'hqmy kpi "I gpgtcnEqpf kkpup'o wuv'dg'hqmy gf 'kp'qtf gt'hqt'cp{'cwj qtk ckkp'd{'c'P Y R'vq'  
dg'xcnf <"

"

30 Pcxki ckkp0\*c+P q'cevkxk{'o c{'ecwug'o qtg'yj cp'c'o kpk cni'cf xgtug'ghge'vqp"  
pcxki ckkp0'

\*d+ Cp{'uchgv{'rki j w'cpf'uki pcu'r tguetkdgf'd{'vj g'WUOEqcuwI wetf.'vj tqwi j "  
tgi wrcvkkpu'qt'qvj gty kug.'o wuv'dg'kpucmgf'cpf'o ckkpckpgf'cv'vj g'r gto kwgg'u'gzi gpug'qp"  
cwj qtk gf'hcekxkgu'kp'pcxki cdrg'y cvgtu'qh'vj g'Wpkgf'Ucvgu0'

\*e+ Vj g'r gto kwgg'wpgf gtu'cpf u'cpf'ci tgg'u'vj cv'kh'hwatg'qr gtcvkkpu'd{'vj g'Wpkgf "  
Ucvgu'tgs wktg'yj g'tgo qxcn'tgmecvkkp.'qt'qvj gt'cngtcvkkp.'qh'vj g'utwewt'qt'y qtmj' gtgk "  
cwj qtk gf.'qt'kh'kp'vj g'qr kkp'qh'vj g'Ugetgvt{'qh'vj g'Cto {'qt'j ku'cwj qtk gf'tgrtgugpcvkg."  
uckf'utwewt'qt'y qtmij cni'ecwug'wptgcu'pdcrg'qduwewvkkp'v'vj g'htgg'pcxki ckkp'qh'vj g"  
pcxki cdrg'y cvgtu.'vj g'r gto kwgg'y knldg'tgs wktgf.'wr qp'f w'p'q'v'eg'htqo 'vj g'Eqr u'qh'Gpi kpggtu."  
v'g'tgo qxg.'tgmecv.'qt'cngt'vj g'utwewt'cn'y qtmj'qt'qduwewvkkpu'ecwugf'vj gtdg{'y kj qw'gzi gpug"  
v'vj g'Wpkgf'Ucvgu0'P q'erc'lo 'uj cni'dg'o cf g'ci cku'v'vj g'Wpkgf'Ucvgu'qp'ceeqw'v'qh'cp{'uwej "  
tgo qxcn'qt'cngtcvkkp0'

"

40 Cs wvle'Nkg'O qxgo gpu0P q'cevkxk{'o c{'u'wdu'cpv'kcm{'f'kut w'v'vj g'pgegu'ct{'rkhg"  
e{erg'o qxgo gpu'qh'vj qug'ur gelgu'qh'cs wvle'rhg'lpf ki gpqu'v'q'vj g'y cvgt'dqf{'.'kpenf kpi 'vj qug"  
ur gelgu'vj cv'p'qto cm{'o ki tcv'vj tqwi j 'vj g'ctgc.'wprgu'v'vj g'cevkxk{'u'r tko ct{'r wtr qug'ku'v'q"  
ko r qwpf'y cvgt0' Cni'r gto cpgp'v'cpf'vgo r qtct{'etqu'kpi u'qh'y cvgt'dqf kgu'uj cni'dg'u'w'kcdn{"  
ewxgt'v'gf.'dtkf i gf.'qt'qvj gty kug'f guki pgf'cpf'eqputwewf'v'q'o ckkpck'p'qy 'hmy u'v'q'u'w'v'ckp'vj g"  
o qxgo gp'v'qh'vj qug'cs wvle'ur gelgu0' Kic'dq'wqo ngu'ewxgt'v'ecpp'v'dg'wugf.'vj gp'vj g'etqu'kpi "  
uj qwf'dg'f guki pgf'cpf'eqputwewf'v'q'o kpk k'g'cf xgtug'ghge'v'v'q'cs wvle'rhg'o qxgo gpu0'

"

50 Ur cy plpi 'Ctgc0Cevxkkgu'kp ur cy plpi 'ctgcuf wtkpi 'ur cy plpi 'ugcu'p'u'o wuv"  
dg'cxqkf gf'v'q'vj g'o czko wo 'gzv'gpv'r tcevkcdrg0Cevxkkgu'vj cv'tgu'w'v'kp'vj g'r j {ulecn"  
f g'utwewv'k'p'g'0'vj tqwi j 'gzecxev'k'p.'hkm'qt'f qy putgco 'uo qy gtkpi 'd{'u'wdu'cpv'kcn' wtdkf k{' +  
qh'cp'ko r q'v'cp'v'ur cy plpi 'ctgc'ctg'pq'v'cwj qtk gf 0'

"

60 O ki tcvqt{'Dkf'Dtggf kpi 'Ctgc0Cevxkkgu'kp y cvgtu'qh'vj g'Wpkgf'Ucvgu'vj cv"  
ugt'xg'cu'dtggf kpi 'ctgcuhqt'o ki tcvqt{'dktf u'o wuv'dg'cxqkf gf'v'q'vj g'o czko wo 'gzv'gpv'  
r tcevkcdrg0'

"

70 Uj gnhuj 'Dgf u0P q'cevkxk{'o c{'qeew'lp'ctgcuh'eqpegp'v'cv'gf'uj gnhuj "  
r qr wrcvkkpu.'wprgu'v'vj g'cevkxk{'ku'f k'ge'v'v'v'g'f'v'q'c'uj gnhuj 'j'ctxg'v'kpi 'cevkxk{' "  
cwj qtk gf'd{'P Y Ru'6'cpf'6:.'qt'ku'c'uj gnhuj 'uggf kpi 'qt'j cdkcv'tgu'v'v'ckp'cevkxk{' "  
cwj qtk gf'd{'P Y R'490'

"

80 Uw'kcdrg'O cvgt'kcr0P q'cevkxk{'o c{'wug'wpu'w'kcdrg'o cvgt'kcn'\*g'0'v'cu'j.'f gdt'ku."  
ect'dqf kgu.'cur j cn'ge'0'0'cvgt'kcn'wugf'ht'eqputwewv'k'p'qt'f'uej cti gf'o wuv'dg'htgg'htqo 'v'qz'k "  
r qm'w'cpw'kp'v'qz'k'co qwpw'ugg'uge'v'k'p'529'qh'vj g'Engcp'Y cvgt'Cev'0'

"

90 Y cvgt'Uwr r n' 'Kpvcngu0P q'cevxxk' 'o c{ 'qeewt'lp'y g'r tqzko k' 'qh'c'r wdrle'y cvgt'  
uwr r n' 'k'pvcng. "gzeqr v'y j gt g'y g'cevxxk' 'ku'ht' y g'tgr ckt'qt' ko r tqxgo gpv'qh'r wdrle'y cvgt' uwr r n' "  
k'pvcng'utwewtgu'qt'cf lcegpv'dcpm'ucdkk' c'kqp0'

: 0 Cf xgtug'Ghgewu'Htqo "Ko r qwpf o gpw0'Ki'y g'cevxxk' "etgcvgu"cp"ko r qwpf o gpv'  
qh'y cvgt. "cf xgtug" ghgewu"vq" y j g'cs wvke"u{ uvgu "f wg" vq"ceegrgtcvki " y j g'r cuuci g'qh'y cvgt."  
cpf lqt'tgustevki 'ku'hmjy "o wuv'dg'o k'pko k' gf "vq'y j g'o czko wo "gzv'pvr'tcevecdng0'

; 0 O cpci go gpv'qh'Y cvgt'Hmju u0'Vj'y g'o czko wo "gzv'pvr'tcevecdng."y j g'r tg/"  
eqputwvki"eqwtug."eqpf k'kqp."ecr cek'."cpf "h'ecvki"qh'qr gp'y cvgtu'o wuv'dg'o c'k'p'c'k'p'gf "h'qt"  
gcej "cevxxk'."k'p'nmf k'pi "utgco "ej c'p'p'g'k'k' c'k'k'p."uqto "y cvgt'o cpci go gpv'cevxxk'k'gu."cpf "  
vgo r qtct { "cpf 'r gto c'p'g'p'v'tqcf "etquki u."gzeqr v'cu'r tqxkf gf "dgmjy 0'Vj g'cevxxk' "o wuv'dg"  
eqputwvki"vq'y k'j ucpf "g'zr gev'f "j k' j "hmjy u0'Vj g'cevxxk' "o wuv'p'q'v'tgustev'qt" ko r gf g'y j g'  
r cuuci g'qh'p'qto c'ni'qt' j k' j "hmjy u."w'p'rgu'v'y g'r tko ct { "r wtr qug'qh'y j g'cevxxk' 'ku'vq'ko r qwpf 'y cvgt'  
qt'o cpci g'j k' j "hmjy u0'Vj g'cevxxk' "o c{ "cngt' y j g'r tg/eqputwvki"eqwtug."eqpf k'kqp."ecr cek'." "  
cpf "h'ecvki"qh'qr gp'y cvgtu'h'k'k'dgpg'h'ku'y j g'cs wvke"gp'x'k'qpo gpv'\*g'0'utgco "t'guv'qtcvki"qt"  
tg'h'ecvki"cevxxk'k'gu'0'

320 Hkmu'Y k'j k'p'322/l gct'Hmjqf r n'k'p'u0'Vj g'cevxxk' "o wuv'eqo r n' "y k'j "cr r n'ecdrng"  
HGO C/cr r tqxgf "ucv'g'qt'h'ecvki"hmjqf r n'k'p'o cpci go gpv'tgs vkt go gpw0'

330 Gswr o gpv0'J gcx { "gs wkr o gpv'y qtnkpi "lp'y g'v'p'f u'qt'o w'f h'w'u'o wuv'dg'r n'ceg' "  
qp'o cuu."qt'q'j gt'o gcuwtgu'o wuv'dg'c'ngp"vq'o k'pko k' g'u'q'k'f k'uwtdcpeg0'

340 Uqki'Gtqukq'cpf "Ugf ko gpv'Eqptqnu0'Cr r tqr t'k'v'g'uqki'gtqukq'cpf "ugf ko gpv'  
eqptqnu'o wuv'dg'wugf "cpf "o c'k'p'c'k'p'gf "k'p'gh'g'ev'x'g'qr gtcvki "eqpf k'kqp"v'v'k'pi "eqputwvki."cpf "  
cm'gzr qugf "uqki'cpf "q'j gt'h'kmu."cu'y g'm'cu'cp { "y qtnidgmjy "y j g'qtf k'pct { "j k' j "y cvgt'o c'ni'qt"  
j k' j "v'f g'h'p'g."o wuv'dg'r gto c'p'g'p'v'v' "ucdkk' gf "cv'y j g'g'et'nguv"r tcevecdng"v'cv'0'Rgto k'w'gu'ctg"  
g'p'eqwtci gf "vq'r gth'qto "y qtni'y k'j k'p'y cvgtu'qh'y j g'W'p'k'gf "U'cv'gu'f v'k'pi "r g'k'q'f u'qh'hmjy /hmjy "qt"  
pq/hmju ."qt"v'v'k'pi "hmjy "v'f gu'0'

350 Tgo qxcn'qh'Vgo r qtct { 'Hkmu0'Vgo r qtct { 'Hkmu'o wuv'dg'tgo qxgf "lp'y g'k' "gp'v'k'g'v' "  
cpf "y j g'ch'g'ev'f "ctgcu'tgwt'p'gf "vq'r tg/eqputwvki"gm'x'c'v'k'p'u0'Vj g'ch'g'ev'f "ctgcu"o wuv'dg"  
tgxgi g'cv'gf ."cu'cr r tqr t'k'v'g0'

360 Rtqr gt'O c'k'p'v'g'p'c'p'eg0' Cp { "cwj qtk gf "utwewt'g'qt'h'k'm'uj cm'dg'r tqr gtn' "  
o c'k'p'c'k'p'gf ."k'p'nmf k'pi "o c'k'p'v'g'p'c'p'eg"vq"gp'uw'g'r wdrle'uch'g'v' "cpf "eqo r n'c'p'eg'y k'j " cr r n'ecdrng"  
P Y R'i g'p'g'tc'n'eqpf k'k'qpu."cu'y g'm'cu'cp { "cevxxk' /ur gek'k'e"eqpf k'k'qpu"cf f gf "d { "y j g'f k'ut'ev'  
gpi k'p'gg' "vq'cp" P Y R'cwj qtk c'k'qpo0'

370 Ukpi ng'cpf "Eqo r ngv'Rtqlgev0'Vj g'cevxxk' "o wuv'dg'c'ukpi ng'cpf "eqo r ngv'"  
r tqlgev0'Vj g'uco g'P Y R'ecppq'v'dg'wugf "o qtg'y j cp"q'p'eg'h'qt'y j g'uco g'ukpi ng'cpf "eqo r ngv'"  
r tqlgev0'

380 Y k'f "cpf "Uegple'Tkxgtu0"\*c+P q'P Y R'cevxxk' "o c{ "qeewt'lp'c'eqo r q'p'g'p'v'qh'  
y j g'P c'v'k'q'p'c'n'Y k'f "cpf "Uegple'Tkxgt'U{ uvgu ."qt'k'p'c't'kxgt'qh'h'ek'cm' "f guki p'cv'gf "d { "Eqpi t'gu'u'cu'c"  
ouwf { "tkxgt'o'h'qt'r quukdrng'k'p'nmf k'p'v'j g'u{ uvgu "y j k'g'y j g'tkxgt'ku'k'p'cp"qh'h'ek'c'n'uwf { "ucw'u."

wprguu'vj g'cr r tqr tlcvg'Hgf gtcn'ci gpe { 'y kj 'f k gev'o cpci go gpv'tgur qpukdkrkv 'hqt'uwej 'tkxgt.' j cu'f gvgto kpgf 'kp'y tklpi 'vj cv'vj g'r tqr qugf 'cevxkv' 'y kn'pqv'cf xgtugn' 'chgeev'vj g'Y kf 'cpf' " Uegple'Tkxgt'f guki pcvkqp'qt'uwwf { 'ucwuu0

\*d+ Kic'r tqr qugf 'P Y R'cevxkv' 'y kn'qeev'kp'c'eqo r qp'p'v'qh'vj g'P cvkqpcn'Y kf "cpf" Uegple'Tkxgt'U'ugvgo . 'qt'kp'c'tkxgt'qhhlekcn'f guki pcvgf 'd { 'Eqpi tguu'cu'c'ouwwf { 'tkxgt'o'hqt' r quikdrg'kpenwukqp'kp'vj g'u'ugvgo 'y j kg'vj g'tkxgt'ku'kp'cp'qhhlekcn'uwwf { 'ucwuu. 'vj g'r gto kwgg'o wuv' uwdvdo k'c'r tg/eqputwevkqp'pqvhhlekcn'q'ugg'i gp'gtcn'eqpf kskqp'54+0'Vj g'f kntlev'gpi kpggt'y kn' eqqtf kpcvg'vj g'REP 'y kj 'vj g'Hgf gtcn'ci gpe { 'y kj 'f k gev'o cpci go gpv'tgur qpukdkrkv 'hqt'vj cv' tkxgt'0' Vj g'r gto kwgg'uj kn'pqv'dgi kp'vj g'P Y R'cevxkv' "wp'kn'pqv'hhgf 'd { 'vj g'f kntlev'gpi kpggt'y cv' vj g'Hgf gtcn'ci gpe { 'y kj 'f k gev'o cpci go gpv' tgur qpukdkrkv 'hqt'vj cv'tkxgt'j cu'f gvgto kpgf 'kp' y tklpi 'vj cv'vj g'r tqr qugf 'P Y R'cevxkv' 'y kn' pqv'cf xgtugn' 'chgeev'vj g'Y kf 'cpf' "Uegple'Tkxgt' f guki pcvkqp'qt'uwwf { 'ucwuu0

\*e+ Kphqto cvkqp'qp'Y kf "cpf"Uegple'Tkxgtu'o c { 'dg'qdvckpgf 'htqo 'vj g'cr r tqr tlcvg' Hgf gtcn'hp'f 'o cpci go gpv'ci gpe { 'tgur qpukdrg'hqt'vj g'f guki pcvgf 'Y kf "cpf"Uegple'Tkxgt'qt' uwwf { 'tkxgt' \*g0 0'P cvkqpcn'Rctm'Ugtxleg. 'WU0Hqt guv'Ugtxleg. 'Dwtgcw'qh'Ncpf 'O cpci go gpv.' WU0Hkj 'cpf' 'Y kf rhtg'Ugtxleg+0'Kphqto cvkqp'qp'vj gug'tkxgtu'ku'cnuq'cxckrcdrg'cv'

[j wr <ly y y 0kxgtu0 qx 10'](#)

"

390 Vtkdcn'Tki j u0P q'P Y R'cevxkv' 'o c { 'ecwug'o qtg'vj cp'o kpkv cni'cf xgtug'ghgevu' qp'v'tkdcn'tki j w' \*kpenw'kpi 'tgcvi' 'tki j w+.'r tqgevgf 'v'tkdcn'tguqwtegu. 'qt'v'tkdcn'hp'f u0

"

3: 0 Gpf cpi gtgf 'Ur gelgu0\*c+'P q'cevxkv' 'ku'cwj qtk gf 'wpf gt'cp { 'P Y R'y j lej 'ku' rkngn' 'q'f k gev'v' 'qt'kp'f k gev'v' 'lgqr ctf k g'vj g'eqp'v'p'wgf 'gz'kvgpeg'qh'c'vj tgcvgpgf 'qt' gp'f cpi gtgf " ur gelgu'qt'c'ur gelgu'r tqr qugf 'hqt'uwej 'f guki pcvkqp. 'cu'kf gp'v'hhgf 'wpf gt'vj g'Hgf gtcn'Gpf cpi gtgf " Ur gelgu'Cev' \*GUC+. 'qt' y j lej 'y kn'f k gev'v' 'qt'kp'f k gev'v' 'f gvtq { 'qt' cf xgtugn' 'o qf kh' 'vj g'etk'k'ecn' j cdkcv'qh'uwej 'ur gelgu'0P q'cevxkv' 'ku'cwj qtk gf 'wpf gt'cp { 'P Y R'y j lej 'oo c { 'chgeev'o'c'rkuvf " ur gelgu'qt'etk'k'ecn'j cdkcv.'wprguu'GUC'ugevkqp'9' eqpuwncvkqp'cf f tgu'kpi 'vj g'ghgevu'qh'vj g' r tqr qugf 'cevxkv' 'j cu'dggp'eqo r ngvf 0F k gev'ghgevu'ctg'vj g'ko o gf kcv'ghgevu'qp'rkuvf 'ur gelgu' cpf 'etk'k'ecn'j cdkcv'ecwugf 'd { 'vj g'P Y R'cevxkv' 0'Kpf k gev'ghgevu'ctg'vj qug'ghgevu'qp'rkuvf " ur gelgu'cpf 'etk'k'ecn'j cdkcv'vj cv'ctg' ecwugf 'd { 'vj g'P Y R'cevxkv' 'cpf' 'ctg'rcvgt 'kp'v'ko g. 'dw'u'kmi' ctg'tgcuqpcdn' 'egt'v'clp'v'q'qeev'0

\*d+ Hgf gtcn'ci gpe'gu'uj qwf 'hqmjy 'vj gk'qy p'r tqegf w'gu'hqt'eqo r n'kpi 'y kj 'vj g' tgs vkt go gpv'qh'vj g'GUC'0'K'r tg/eqputwevkqp'pqvhhlekcn'ku'tgs vkt gf 'hqt'vj g'r tqr qugf 'cevxkv'." vj g'Hgf gtcn'r gto kwgg'o wuv'r tqxkf g'vj g'f kntlev'gpi kpggt'y kj 'vj g'cr r tqr tlcvg'f qewo gpvcvkqp'v'q' f go qp'utcv'g'eqo r r'k'peg'y kj 'vj qug'tgs vkt go gpv'0'Vj g'f kntlev'gpi kpggt' y kn'xgtkh' 'vj cv'vj g' cr r tqr tlcvg'f qewo gpvcvkqp'j cu'dggp'uwdvdo kwgf 0'K'vj g'cr r tqr tlcvg'f qewo gpvcvkqp'j cu'pqv'dggp' uwdvdo kwgf. 'cf f k'k'qpcn'GUC'ugevkqp'9'eqpuwncvkqp'o c { 'dg' p'geguuct { 'hqt'vj g'cevxkv' 'cpf' 'vj g' tgur gev'x'g'hgf gtcn'ci gpe { 'y qwf 'dg'tgur qpukdrg'hqt' hwt'k'k'kpi 'ku'q'drki cvkqp'wpf gt'ugevkqp'9'qh' vj g'GUC'0

\*e+ P qp/hgf gtcn'r gto kwgg'u'o wuv'uwdvdo k'c'r tg/eqputwevkqp'pqvhhlekcn'v'q'vj g' f kntlev'gpi kpggt'k'hp' { 'rkuvf 'ur gelgu'qt'f guki pcvgf 'etk'k'ecn'j cdkcv'o ki j v'dg'chgevgf 'qt'ku'kp'vj g' x'k'ekp'k'v' 'qh'vj g'cevxkv'."qt'k'h'vj g'cevxkv' 'ku'hqecvgf 'kp'f guki pcvgf 'etk'k'ecn'j cdkcv.'cpf "uj kn'pqv' dgi kp'y qtm'qp'vj g'cevxkv' 'wp'kn'pqv'hhgf 'd { 'vj g'f kntlev'gpi kpggt'y cv'vj g'tgs vkt go gpv'qh'vj g' GUC'j cxg'dggp'uc'v'hhgf 'cpf' 'vj cv'vj g'cevxkv' 'ku'cwj qtk gf 0'Hqt'cevxkv'k'gu'vj cv'o ki j v'chgeev' Hgf gtcn' /rkuvf 'gp'f cpi gtgf 'qt'vj tgcvgpgf 'ur gelgu'qt'f guki pcvgf 'etk'k'ecn'j cdkcv.'vj g'r tg/ eqputwevkqp'pqvhhlekcn'v'o wuv'kpenw'g'vj g'pco g'u+qh' vj g'gp'f cpi gtgf 'qt'vj tgcvgpgf 'ur gelgu'vj cv'

"

o ki j v'dg'chgevgf "d{ 'y g'r tqr qugf "cevxkv{ "qt "y cv'wklk g'y g'f guki pcvgf "etklectn'j cdkcv'y cv"  
 o ki j v'dg'chgevgf "d{ 'y g'r tqr qugf "cevxkv{ 0'Vj g'f kntlev'gpi kpggt'y knlf gvto kpg'y j gyj gt'y g"  
 r tqr qugf "cevxkv{ "do c{ "chgevo"qt "y knlj cxg"opq"ghgevo"q"rkugf "ur gekgu'cpf "f guki pcvgf "etklectn'  
 j cdkcv'cpf "y knlpqvh{ "y g'pqp/"Hgf gtcn'cr r nlecpv'qh'y g'Eqtr uo'f gvto kpcvkp'y kj kp'67'f c{ u'qh'  
 tgegkr v'qh'c"eqo r ngv'r tg/"eqputwewkp"pqvhecvkp0'Kp"ecugu'y j gtg'y g'pqp/Hgf gtcn'cr r nlecpv'  
 j cu'kf gpvkhgf "rkugf "ur gekgu'qt "etklectn'j cdkcv'y cv'o ki j v'dg'chgevgf "qt "ku'kp'y g'xlekpkv{ "qh'y g"  
 cevxkv{ "cpf "j cu'ug'pqvkhgf "y g'Eqtr u. "y g'cr r nlecpv'uj cm'pqv'dgi kp'y qtn'wpv'kh'y g'Eqtr u'j cu"  
 r tqxkf gf "pqvhecvkp'y cv'y g'r tqr qugf "cevxkv{ "y knlj cxg"opq"ghgevo"qp"rkugf "ur gekgu'qt "etklectn'  
 j cdkcv."qt "wpv'kh'GUC "ugevkp"9"eqpuwncvkp"j cu'dggp"eqo r ngvgf 0'Kv'y g'pqp/Hgf gtcn'cr r nlecpv'j cu"  
 pqv'j gctf "dcem'htqo "y g'Eqtr u'y kj kp'67'f c{ u. "y g'cr r nlecpv'o wuv'ukm'y ck'hqt "pqvhecvkp"htqo " "  
 yj g'Eqtr uo'

\*f+ Cu'c'tguwn'qh'htqo cni'qt "kphqto cnieqpuwncvkp'y kj "y g'HY U'qt "P O HU'y g"  
 f kntlev'gpi kpggt'o c{ "cf f "ur gekgu'ur gekhe'r gto k'eqpf kkpqu'vq'y g'P Y Ru0'

\*g+ Cwj qtk'cvkp'qh'cp'cevxkv{ "d{ "cp "P Y R'f qgu'pqv'cwj qtk' g'y g'övcngö"qh'c"  
 yj tgcvgpgf "qt "gpf cpi gtgf "ur gekgu'cu'f ghkpgf "wpf gt'y g'GUC0'Kp'y g'cdugpeg'qh'ugr ctcvg"  
 cwj qtk'cvkp" \*g0 0'cp "GUC "Ugevkp"32'Rgto kv."c "Dkqmqi lectn'Qr kkp'y kj "öpekf gpv'cn'vcngö"  
 r tqxkukpu. "gve0'htqo "y g'HY U'qt "y g'P O HU."y g'Gpf cpi gtgf "Ur gekgu'Cev'r tqj kdku'cp{ "r gtuqp"  
 uwdlgev'vq'y g'lwtkf levkp'qh'y g'Wpkgf "Ucv'gu'vq'vcng" c'rkugf "ur gekgu. "y j gtg' "\$vcng\$ "o gcpu'vq"  
 j ctcu. "j cto. "r wtug. "j wpv. "uj qqv. "y qwpf. "nkm "vcr. "ecr wtg. "qt "eqmgev. "qt "vq'cwgo r v'vq'gpi ci g"  
 kp'cp{ "uwej "eqpf wev'0Vj g'y qtf "öj cto ö'kp'y g'f ghkpkkp'qh'övcng)) "o gcpu'cp'cev'y j kej "cewcm{ "  
 nkm"qt "kplwtgu'y krf rkhg0Uwej "cp'cev'o c{ "kpenmf g'uki phlecpv'j cdkcv'o qf khecvkp'qt "f gi tcf cvkp"  
 y j gtg'k'cewcm{ "nkm"qt "kplwtgu'y krf rkhg" d{ "uki phlecpv' "ko r cktkpi "guugpv'cn'dgj cxkqtcn'  
 r cwtgtpu. "kpenmf kpi "dtggf kpi. "hggf kpi "qt "uj gngtkpi 0'

\*h+ Kv'y g'pqp/hgf gtcn'cr gto kwgg'j cu'c'xcrkf "GUC "ugevkp"32\*c+\*3+\*D+lpekf gpv'cn'vcng"  
 r gto k'y kj "cp'cr r tqxgf "J cdkcv'Eqputxevkp'Rncp'htqo "c' "r tqlgev'qt "c' "i tqwr "qh'r tqlgeu' "y cv"  
 kpenmf gu'y g'r tqr qugf "P Y R'cevxkv{. "y g'pqp/hgf gtcn'cr r nlecpv'uj qwf "r tqxkf g'c"eqr { "qh'y cv"  
 GUC "ugevkp"32\*c+\*3+\*D+r gto k'y kj "y g'REP "tgs vktgf "d{ "r ctcn' ter j "e+ "qh'y ku'i gpgtcn'  
 eqpf kkp0' Vj g'f kntlev'gpi kpggt'y knleqqt'f kpcvg'y kj "y g'ci gpe { "y cv'kuwgf "y g'GUC "ugevkp"  
 32\*c+\*3+\*D+r gto k'vq'f gvto kpg'y j gyj gt'y g'r tqr qugf "P Y R'cevxkv{ "cpf "y g'cuuqekcvf "  
 kpekf gpv'cn'vcng'y gtg'eqpukf gtgf "kp'y g'kpvtgpcn'GUC "ugevkp"9"eqpuwncvkp" eqpf wevgf "htqo "y g'ci gpe { "  
 GUC "ugevkp"32\*c+\*3+\*D+r gto k0' Kv'y cveqqt'f kpcvkp'tguwnu'kp"eqpewtgpeg'htqo "y g'ci gpe { "  
 y cv'y g'r tqr qugf "P Y R'cevxkv{ "cpf "y g'cuuqekcvf "kpekf gpv'cn'vcng'y gtg'eqpukf gtgf "kp'y g"  
 kpvtgpcn'GUC "ugevkp"9"eqpuwncvkp"htqo "y g'GUC "ugevkp"32\*c+\*3+\*D+r gto kv. "y g'f kntlev'  
 gpi kpggt'f qgu'pqv'pggf "vq'eqpf wev'c'ugr ctcvg'GUC "ugevkp"9"eqpuwncvkp"htqo "y g'r tqr qugf "P Y R'  
 cevxkv{ 0'Vj g'f kntlev'gpi kpggt'y knlpqvh{ "y g'pqp/hgf gtcn'cr r nlecpv'y kj kp'67'f c{ u'qh'tgegkr v'qh'  
 c"eqo r ngv'r tg/eqputwewkp"pqvhecvkp'y j gyj gt'y g'GUC "ugevkp"32\*c+\*3+\*D+r gto k'eqxgtu'y g"  
 r tqr qugf "P Y R'cevxkv{ "qt "y j gyj gt'cf f kkpqcn'GUC "ugevkp"9"eqpuwncvkp"ku'tgs vktgf 0'

\*i+ Kphqto cvkp'qp'y g'hqecvkp'qh'y tgcvgpgf "cpf "gpf cpi gtgf "ur gekgu'cpf "y gkt"  
 etklectn'j cdkcv'ecp"dg"qdvckpgf "f kgevn' "htqo "y g'qhhegu'qh'y g'HY U'cpf "P O HU'qt "y gkt "y qtrf "  
 y kf g'y gd'v'ci gu'cv'j [wr <ly y y 0ny u0 qx>](#) "qt "j [wr <ly y y 0ny u0 qx>lr ce](#) "cpf "  
[j wr <ly y y 0po hu0qcc0 qx lr t lr gekgulguc>](#) "t gur gev'xgn{ 0'

"

3; 0 O ki tcvqt { "Dktf u'cpf "Dcrf "cpf "I qrf gp"Gci ngu0Vj g'r gto kwgg'ku'tgur qpukdng'htqo"  
 gpwtkpi "y gkt "cevkp"eqo r ngu'y kj "y g'O ki tcvqt { "Dktf "Vtgev{ "Cev'cpf "y g'Dcrf "cpf "I qrf gp"  
 Gci ng'Rtqgevkp'Cev0Vj g'r gto kwgg'ku'tgur qpukdng'htqo "eqpcev'kpi "cr r tqr tkvg"necn'qh'heg'qh'y g"  
 WU0Hkuj "cpf "Y kf rkhg "Ugtxleg'vq'f gvto kpg'cr r nlecdng'o gcuwtgu'vq"tgf weg'ko r cew'vq"o ki tcvqt { "

"



dkf u"qt" gci ngu. 'lpenw lpi 'y j gyj gt "ölpel gpvcn'cngö'r gto ku" ctg' pgeguuct { 'cpf 'cxclrdng' wpf gt " yj g'O ki tcvqt { 'Dkf "Vtgcw { 'Cev'qt "Dcrf "cpf "I qrf gp "Gci ng "Rtqvgevkp "Cev'ht "c'r ct'kwrt " cevxxk { '0

"

420 J kvqtke "Rtqr gt vku0\*c+"Kp "ecugu'y j gt g'yj g'f kntlev'gpi kpggt "f gygto kpgu'yj cv'yj g" cevxxk { "o c { "j cxg'yj g'r qvvpkcn'vq "ecwug "ghgeu'vq "r tqr gt vku'rkugf . "qt "grki kdrng'ht "rkukpi . "kp "yj g" P cvkqpcnT gi kvgt "qh'J kvqtke "Rregeu. 'yj g'cevxxk { 'ku'pqv'cwj qtk gf . "wpkn'yj g" tgs vkt go gpw'qh" Ugevkp "328"qh'yj g'P cvkqpcnJ kvqtke "Rtgugtxcvkq "Cev\*P J RC+"j cxg'dggp "ucvkhgf '0

\*d+ Hgf gtcn'r gto kvvgu'uj qwf "hqmy 'yj gkt "qy p'r tqegf wgu'ht "eqo r n' lpi 'y kj 'yj g" tgs vkt go gpw'qh'ugevkp "328"qh'yj g'P cvkqpcnJ kvqtke "Rtgugtxcvkq "Cev'0K'r tg/eqputwevkp "pqvkhlecvkp "ku'tgs vkt gf "ht "yj g'r tqr qugf "P Y R'cevxxk { . "yj g'Hgf gtcn'r gto kvvg'o wuv "r tqxkf g'yj g" f kntlev'gpi kpggt "y kj 'yj g'cr r tqr tkvg "f qewo gpvcvkp "vq "f go qputcvg "eqo r rkepeg'y kj 'yj qug" tgs vkt go gpw'0Vj g'f kntlev'gpi kpggt "y kn'xgtkh { "yj cv'yj g'cr r tqr tkvg "f qewo gpvcvkp "j cu'dggp "uwo kvgf '0'K'yj g'cr r tqr tkvg "f qewo gpvcvkp "ku'pqv'uwo kvgf . " yj gp "cf f kqpcn'eqpuwncvkp " wpf gt "ugevkp "328"o c { "dg'pgeguuct { '0Vj g'tgur gevxg "hgf gtcn' ci gpe { 'ku'tgur qpukdrng'ht "hwtknpi " ku'qdrki cvkq "vq "eqo r n' "y kj "ugevkp "3280

\*e+ P qp/hgf gtcn'r gto kvvgu'o wuv'uwo k'c'r tg/eqputwevkp "pqvkhlecvkp "vq "yj g" f kntlev'gpi kpggt "kh'yj g'P Y R'cevxxk { "o ki j v'j cxg'yj g'r qvvpkcn'vq "ecwug "ghgeu'vq "cp { "j kvqtke " r tqr gt vku'rkugf "qp. "f gygto kpgf "vq "dg'grki kdrng'ht "rkukpi "qp. "qt "r qvvpkcn' "grki kdrng'ht "rkukpi "qp" yj g'P cvkqpcnT gi kvgt "qh'J kvqtke "Rregeu. 'lpenw lpi "r tgxkqun { "wpkf gpvkhgf " r tqr gt vku'0 Hqt "uwej " cevxxkku. 'yj g'r tg/eqputwevkp "pqvkhlecvkp "o wuv'ucvg "y j lej "j kvqtke " r tqr gt vku'o ki j v'j cxg'yj g" r qvvpkcn'vq "dg'chgevgf "d { "yj g'r tqr qugf "P Y R'cevxxk { "qt "lpenw g'c'xlepkv { "o cr "lpf kcvkpi "yj g" mqecvkp "qh'yj g'j kvqtke "r tqr gt vku'qt "yj g'r qvvpkcn'ht "yj g'r tgugpeg "qh'j kvqtke "r tqr gt vku'0 Cuukrcepeg'tgi ctf lpi "lphqto cvkq "qp "yj g'mqecvkp "qh "qt "r qvvpkcn'ht. "yj g'r tgugpeg "qh'j kvqtke " r tqr gt vku'ecp "dg'uqwi j v'htqo "yj g'Ucvg "J kvqtke "Rtgugtxcvkq "Qhkegt. "Vtkcn'J kvqtke " Rtugtxcvkq "Qhkegt. "qt "f guki pcvgf "vtkcn'tgr tgugpvkxg. "cu'cr r tqr tkvg. "cpf "yj g'P cvkqpcnT gi kvgt "qh'J kvqtke "Rregeu "ugg "55'EHI "5526\* i +0Y j gp'tgxky lpi "r tg/eqputwevkp " pqvkhlecvkpu. "f kntlev'gpi kpggtu'y kn'eqo r n' "y kj 'yj g'ewtgpv'r tqegf wgu'ht "cf f tguulpi "yj g" tgs vkt go gpw'qh'ugevkp "328"qh'yj g'P cvkqpcnJ kvqtke "Rtgugtxcvkq "Cev'0Vj g'f kntlev'gpi kpggt " uj cm'o cng'c "tgcupcdng "cpf "i qqf "hckj "ghhtv'vq "ectt { "qww'cr r tqr tkvg "kf gpvkhlecvkp "ghhtv. " y j lej "o c { "lpenw g'dcmi tqwpf "tgugtej . "eqpuwncvkp. "qtcn'j kvqt { "kpvtxky u. "uco r ng'hgrf " lpxguki cvkq. "cpf "hgrf "uwxg { '0 Dcuqf "qp "yj g'lphqto cvkq "uwo kvgf "kp "yj g'REP "cpf "yj gug" kf gpvkhlecvkp " ghhtv. "yj g'f kntlev'gpi kpggt "uj cm'f gygto kpg "y j gyj gt "yj g'r tqr qugf "P Y R'cevxxk { " j cu'yj g" r qvvpkcn'vq "ecwug "ghgeu'qp "yj g'j kvqtke "r tqr gt vku'0 Ugevkp "328"eqpuwncvkp "ku'pqv" tgs vkt gf "y j gp "yj g'f kntlev'gpi kpggt "f gygto kpgu'yj cv'yj g'cevxxk { "f qgu'pqv'j cxg'yj g'r qvvpkcn'vq " ecwug "ghgeu'qp "j kvqtke "r tqr gt vku' "ugg "58'EHI " : 2205\*c+0 Ugevkp "328"eqpuwncvkp "ku'tgs vkt gf " y j gp "yj g'f kntlev'gpi kpggt "f gygto kpgu'yj cv'yj g'cevxxk { "j cu'yj g'r qvvpkcn'vq "ecwug "ghgeu'qp " j kvqtke "r tqr gt vku'0 Vj g'f kntlev'gpi kpggt "y kn'eqpf wev'eqpuwncvkp "y kj "eqpuwncpi "r ct'vku" kf gpvkhgf "wpf gt "58'EHI " : 2204\*e+y j gp "j g'qt "uj g'o cngu'cp { "qh'yj g'hqmy lpi "ghgeu" f gygto kpcvkpu'ht "yj g'r wtr qugu'qh'ugevkp "328"qh'yj g'P J RC < "pq "j kvqtke "r tqr gt vku'chgevgf . "pq" cf xgtug "ghgeu. "qt "cf xgtug "ghgeu'0 "Y j gt g'yj g"pqp/Hgf gtcn'r r rkecpv'j cu'kf gpvkhgf "j kvqtke " r tqr gt vku'qp "y j lej "yj g'cevxxk { "o ki j v'j cxg'yj g'r qvvpkcn'vq "ecwug "ghgeu'cpf "uq "pqvkhgf "yj g" Eqtr u. "yj g'pqp/Hgf gtcn'r r rkecpv'uj cm'pqv" dgi kp "yj g'cevxxk { "wpkn'pqvkhgf "d { "yj g'f kntlev' gpi kpggt "gkj gt "yj cv'yj g'cevxxk { "j cu'pq "r qvvpkcn'vq "ecwug "ghgeu'vq "j kvqtke "r tqr gt vku'qt "yj cv" P J RC "ugevkp "328"eqpuwncvkp "j cu'dggp "eqo r ngvgf '0

\*f+ Hqt'pqp/hgf gtcn'r gto kwggu.'y g'f kntlev'gpi kpggt'y kn'pqvkh{ 'y g'r tqur gevkg' r gto kwgg'y kj kp'67'f c{ u'qh'tgegr v'qh'c'eqo r ngv'r tg/eqputwewkp'pqvkh'ecv'q' y j g'j gt" P J RC" ugev'kqp'328'eqpuwncv'kqp'ku'tgs vkt gf 0'K'P J RC'ugev'kqp'328'eqpuwncv'kqp'ku'tgs vkt gf. 'y g'f kntlev' gpi kpggt'y kn'pqvkh{ 'y g'pqp/Hgf gtcn'r r rdec'p'v'j cv'j g'qt'uj g'ecppqv'dgi kp'j g'cev'kxk{ 'wpv'k' ugev'kqp'328'eqpuwncv'kqp'ku'eqo r ngvf 0'K'j g'pqp/Hgf gtcn'r r rdec'p'v'j cu'pqv'j gctf "dcen'ltqo 'y g' Eqtr u'y kj kp'67'f c{ u.'y g'cr r rdec'p'v'o wuv'ukm'y ck'hqt" pqvkh'ecv'kqp'ltqo 'y g'Eqtr u'0

\*g+ Rtqur gevkg'r gto kwggu'uj qwf "dg'cy ctg'yj cv'ugev'kqp'332m'qh'yj g'P J RC" \*76" WUE0528335+'r tgxgpw'yj g'Eqtr u'ltqo 'i tcp'kpi 'c'r gto k'qt'q'j gt "cuukucpeg'v'q'cp'cr r rdec'p'v' y j q.'y kj 'kpvgp'v'q'cxqkf 'y g'tgs vkt go gpw'qh'ugev'kqp'328'qh'yj g'P J RC.'j cu'kpvgp'kqpcm{ " uki p'k'lec'p'v'nf 'cf xgtug'nf 'ch'gevgf 'c'j k'v'qtke'r tqr gt'v{ 'v'q'y j lej 'y g'r gto k' y qwf 't'gr'v'g.'qt'j cxkpi " n'gi cn'r qy gt 'v'q'r tgxgp'v'k'.'cm'qy gf 'uwej 'uki p'k'lec'p'v'nf 'cf xgtug'nf 'gh'gevgf 'v'q'q'ee'w'.'w'p'gu'v'yj g'Eqtr u." ch'gt'eqpuwncv'kqp'y kj 'y g'Cf xkuqt { 'Eqwpe'k'q'p'J k'v'qtke'Rt'gugt'xcv'kqp'\*CEJ R+'f g'v'gto k'p'gu'yj cv' ek'tewo uc'pegu'l'w'v'kh{ 'i tcp'kpi 'uwej 'cuukucpeg' f gur k'g'yj g'cf xgtug'nf 'gh'gevgf'et'g'cv'gf 'qt'r gto kwgf " d{ 'y g'cr r rdec'p'v'o' K'ek'tewo uc'pegu'l'w'v'kh{ " i tcp'kpi 'y g'cuukucpeg.'y g'Eqtr u'ku'tgs vkt gf 'v'q' pqv'kh{ 'y g'CEJ R'cpf 'r tqxkf g'f qewo gp'cv'kqp'ur gekh{ kpi 'y g'ek'tewo uc'pegu.'y g'f gi tgg'qh' f co ci g'v'q'yj g'kp'v'gi tk{ 'qh'cp{ " j k'v'qtke'r tqr gt'v'gu'ch'gevgf. "cpf 'r tqr qugf "o k'ki cv'kqp'0"Vj ku' f qewo gp'cv'kqp'o wuv'k'pen'f g' cp{ 'x'kgy u'q'd'cv'kpgf 'ltqo 'y g'cr r rdec'p'v'UJ RQ IVJ RQ.'cr r tqr tk'v'g' K'p'f kcp'v'k'd'gu'kh'yj g' w'p'f gt'v'cn'kpi 'q'ee'w'v'q'p'qt'ch'gevgf' k'v'qtke'r tqr gt'v'gu'q'p'v'k'd'cn'rc'p'f u'qt'ch'gevgf' r tqr gt'v'gu'q'p'k'p'v'gt'gu'v'q'yj qug'v'k'd'gu.'cpf 'q'v'j gt 'r ct'v'gu'np'qy p'v'q'j cxg'c'ngi k'ko cv'g'k'p'v'gt'gu'v'k'p'yj g' ko r cev'v'q'yj g'r gto kwgf 'cev'kxk{ 'qp'j k'v'qtke'r tqr gt'v'gu'0

"

430 F'kueq'xgt { 'qh'Rt'gxk'q'w'v'nf 'W'p'np'qy p'T'go c'k'p'u'cpf 'C't'v'k'cew'0'K'f { q'w'f k'ueq'xgt" cp{ 'r tgxk'q'w'v'nf 'w'p'np'qy p'j k'v'qtke.'ew'w'v'cn'q't'cte'j g'q'q'i k'ec'n't'go c'k'p'u'cpf 'c't'v'k'cew'yj j k'g' c'ee'qo r r'k'uj kpi 'y g'cev'kxk{ 'cwj qtk gf 'd{ 'y ku'r gto k'v' { q'w'o wuv'ko o gf k'cv'gn{ 'pqv'kh{ 'y j g'f kntlev' gpi kpggt'qh'yj j cv' { q'w'j cxg'h'q'w'p'f. "cpf 'v'q'yj g'o czko wo "gz'v'gp'v'r t'cev'k'ec'd'ng.'cxqkf "eqputwewkp" cev'kxk'k'gu'yj cv'o c{ 'ch'gevgf'yj g't'go c'k'p'u'cpf 'c't'v'k'cew'v'p'v'k'v'yj g'tgs vkt gf " eqqtf k'p'cv'kqp'j cu'd'ggp" eqo r ngvf 0'Vj g'f kntlev'gpi kpggt'y kn'lp'k'k'cv'g'yj g'Hgf gtcn'Vt'k'd'cn'cpf 'u'cv'g'eqqtf k'p'cv'kqp' tgs vkt gf 'v'q'f g'v'gto k'p'g'kh'yj g'k'go u'qt't'go c'k'p'u'y c'tt'cp'v'c't'geq'xgt { "gh'qt'v'qt'kh'yj g'uk'g'ku'g'ri k'd'ng' hqt'v'k'v'kpi 'kp'yj g'P'cv'k'q'p'cn'T'gi k'v'gt'qh'J k'v'qtke'R'cegu'0

"

440 F'guki p'cv'gf 'E't'k'k'ec'n'T'gu'q'w'eg'Y'cv'gtu'0'E't'k'k'ec'n't'gu'q'w'eg'y'cv'gtu'l'p'en'f g.'P'QCC/ o c'pci gf "o c't'k'p'g'uc'pew'ct'k'gu'cpf "o c't'k'p'g'o q'p'wo gpw.'cpf 'P'cv'k'q'p'cn'Gu'w'ct'k'p'g'T'gug'cte'j " T'gugt'x'gu'0'Vj g'f kntlev'gpi kpggt'o c{ 'f'guki p'cv'g.'ch'gt'pq'v'k'eg'cpf 'q'r r qt'w'p'k'v{ 'hqt'r v'd'rk'eqo o gpv'cf f k'k'q'p'cn'y cv'gtu'q'h'h'k'ec'm{ 'f'guki p'cv'gf 'd{ 'c'v'cv'g'cu'j cxkpi 'r ct'v'k'ew'ct'gp'x'k'q'po gp'v'cn' qt'ge'q'q'i k'ec'n'uki p'k'lec'peg.'uwej 'cu'q'w'w'uc'p'f kpi 'p'cv'k'q'p'cn't'gu'q'w'eg'y'cv'gtu'qt'v'cv'g'p'c'w'v'cn' j g't'k'ci g'uk'gu'0'Vj g'f kntlev'gpi kpggt'o c{ "cnu'f'guki p'cv'g'cf f k'k'q'p'cn'et'k'k'ec'n't'gu'q'w'eg'y'cv'gtu'ch'gt" p'q'v'k'eg'cpf 'q'r r qt'w'p'k'v{ 'hqt'r v'd'rk'eqo o gpv'0

\*c+F'kuej cti gu'qh'f tgf i gf 'qt'h'km'o cv'gt'k'cn'lp'v'q'yj cv'gtu'qh'yj g'W'p'k'gf 'U'cv'gu'ct'g'p'q'v' cwj qtk gf 'd{ 'P Y Ru'9.'34.'36.'38.'39.'43.'4; . '53.'57.'5; . '62.'64.'65.'66.'6; . '72.'73.'cpf '74'hqt" cp{ 'cev'kxk{ 'y kj kp.'qt'f'k'gevgf 'ch'gevgf. 'et'k'k'ec'n't'gu'q'w'eg'y'cv'gtu.'l'p'en'f kpi 'y g'v'rc'p'f u'cf l'cegp'v' v'q'uwej 'y cv'gtu'0

\*d+Hqt'P Y Ru'5.'. '32.'35.'37.'3; . '3; . '44.'45.'47.'49.'4; . '52.'55.'56.'58.'59.'5; . 'cpf " 76.'pqv'kh'ecv'kqp'ku'tgs vkt gf 'kp'c'eeqtf c'peg'yj kj 'i gp'gt'cn'eq'p'f k'k'q'p'54.'hqt"cp{ 'cev'kxk{ "r tqr qugf 'kp' yj g'f'guki p'cv'gf 'et'k'k'ec'n't'gu'q'w'eg'y'cv'gtu'l'p'en'f kpi 'y g'v'rc'p'f u'cf l'cegp'v'v'q'yj qug'yj cv'gtu'0'Vj g'f kntlev' gpi kpggt'o c{ 'cwj qtk g'cev'kxk'k'gu'w'p'f gt'yj g'ug'P Y Ru'q'p'nf 'ch'gt'k'v'ku'f g'v'gto k'p'gf 'yj cv'v'j g'ko r cev'v' v'q'yj g'et'k'k'ec'n't'gu'q'w'eg'y'cv'gtu'y kn'd'g'p'q'o qt'g'yj cp'o k'p'ko cn'0

:"

"

450 O kki cvkqp0Vj g'f kntlev'gpi kpggt'y kn'eqpukf gt'vj g'hqmqy kpi 'hcevtu'y j gp" f gvgto klpki 'cr r tqr tlcvg'cpf 'r tcevecdng'o kki cvkqp'pgeguuct { 'vq'gpuwtg'vj cv'vj g'lpf kxf wcn' cpf " ewo wrcvkg'cf xgtug'gpxktqpo gpvni'ghhgeu'ctg'pq'o qtg'vj cp'o kpo cn'

\*c+ Vj g'cevxxk' 'o wuv'dg'f guki pgf 'cpf 'eqputwevgf 'vq'cxqkf 'cpf 'o kpo k g'cf xgtug' ghhgeu.'dqj 'vgo r qtct { 'cpf 'r gto cpgrp'vq'y cvgtu'qh'vj g'Wpkgf 'Ucvgu'vq'vj g'o czko wo "gz vgpv" r tcevecdng'cv'vj g'r tqlgcv'ukg'kQ0'qp'ukg+0'

\*d+ O kki cvkqp'kp'cm'ku'hqto u'cxqkf kpi . 'o kpo k kpi . 'tgevkh' kpi . 'tgf wekpi . 'qt" eqo r gpucvki 'hqt'tguqwtg'muugu+'y kn'dg'tgs vktgf 'vq'vj g'gz vgpv'pgeguuct { 'vq'gpuwtg'vj cv' vj g" kpf kxf wcn'cpf 'ewo wrcvkg'cf xgtug'gpxktqpo gpvni'ghhgeu'ctg'pq'o qtg'vj cp'o kpo cn'

\*e+ Ego r gpucvqt { 'o kki cvkqp'cv'c'o kpo wo "qpg/hqt/qpg'tcvk'y kn'dg'tgs vktgf 'hqt" cm'y gvrpf 'muugu'vj cv'gzeggf '3 B2/cetg'cpf 'tgs vktg'r tg/eqputwekqp'pqv'khec'v'wprgu' vj g" f kntlev'gpi kpggt'f gvgto kpgu'lp'y tkkpi 'vj cv'gkj gt'uo g'qvj gt'hqto 'qh'o kki cvkqp" y qwf 'dg" o qtg'gpxktqpo gpvni' 'cr r tqr tlcvg'qt'vj g'cf xgtug'gpxktqpo gpvni'ghhgeu'qh'vj g'r tqr qugf " cevxxk' 'ctg'pq'o qtg'vj cp'o kpo cn'cpf 'r tqxkf gu'cp'cevxxk' /ur gekhe'y ckg't'qh'vj ku" tgs vktgo gpv'0Hqt'y gvrpf 'muugu'qh'3 B2/cetg'qt'ngu'vj cv'tgs vktg'r tg/eqputwekqp'pqv'khec'v'kqp." vj g'f kntlev'gpi kpggt'o c { 'f gvgto kpg'qp'c'ecug/d { /ecug'dcuku'vj cv'eqo r gpucvqt { 'o kki cvkqp'ku" tgs vktgf 'vq'gpuwtg'vj cv'vj g'cevxxk' 'tguvnu'lp'qpn' 'o kpo cn' cf xgtug'gpxktqpo gpvni'ghhgeu'0'Ego r gpucvqt { "

\*f+ Hqt'muugu'qh'utgco u'qt'qvj gt'qr gp'y cvgtu'vj cv'tgs vktg'r tg/eqputwekqp" pqv'khec'v'kqp. 'vj g'f kntlev'gpi kpggt'o c { 'tgs vktg'eqo r gpucvqt { 'o kki cvkqp'vq'gpuwtg'vj cv'vj g" cevxxk' 'tguvnu'lp'pq'o qtg'vj cp'o kpo cn'cf xgtug'gpxktqpo gpvni'ghhgeu'0'Ego r gpucvqt { " o kki cvkqp'hqt'muugu'qh'utgco u'uj qwf 'dg'r tqxkf gf . 'kh'r tcevecdng. 'vj tqwi j 'utgco " tgj cdkkxcv'kqp."gpj cpego gpv."qt'r tgu'gxcv'kqp. 'ukpeg'utgco u'ctg'f kth'ewv/vq/tgr nceg"tguqwtegu" \*ugg'55'EHT'5540\*g+5+0'

\*g+ Ego r gpucvqt { 'o kki cvkqp'r ncpu'hqt'P Y R'cevxxk'ku'lp'qt'pgct'utgco u'qt'qvj gt" qr gp'y cvgtu'y kn'pqto cm' 'lpen'f g'c'tgs vktgo gpv'hqt'vj g'tguv'gxcv'kqp'qt'gpj cpego gpv." o clpv'gpcpeg."cpf 'r'gi cn'r tqv'gcv'kqp'\*g0'0'eqputgxcv'kqp'gcugo gpv'qh'tkr ct'kcp'ctgcu'pgz'v'vq" qr gp" y cvgtu'0'kp'uo g'ecugu. 'vj g'tguv'gxcv'kqp'qt'o clpv'gpcpeg'r tqv'gcv'kqp'qh'tkr ct'kcp'ctgcu'o c { 'dg'vj g" qpn' 'eqo r gpucvqt { 'o kki cvkqp'tgs vktgf 0T guv'gtgf 'tkr ct'kcp'ctgcu'uj qwf 'eqpukv' qh'p'cv'kg" ur gekgu'0Vj g'y kf vj 'qh'vj g'tgs vktgf 'tkr ct'kcp'ctgc'y kn'cf f tgu'f qewo gpv'f 'y cvgt"s wcrk' 'qt" cs wvle'j cdkcv'quu'eqpegtpu'0P qto cm' . 'vj g'tkr ct'kcp'ctgc'y kn'dg'47'vq'72'hgg'y kf g'qp'gcej " ukf g'qh'vj g'utgco . 'dw'vj g'f kntlev'gpi kpggt'o c { 'tgs vktg'urki j v'f 'y kf gt'tkr ct'kcp'ctgcu'vq'cf f tguu' f qewo gpv'f 'y cvgt"s wcrk' 'qt'j cdkcv'quu'eqpegtpu'0'k'k'ku'pqv'r quukdg'vq'tguv'gt'qt" o clpv'kplr tqv'gcv'c'tkr ct'kcp'ctgc'qp'dqj 'ukf gu'qh'c'utgco . 'qt'kh'vj g" y cvgt'dqf { 'ku'c'rcng'qt" eqcuvni'y cvgtu. 'vj gp'tguv'gt'kpi 'qt'o clpv'kplr lr tqv'gcv'kpi 'c'tkr ct'kcp'ctgc'cm'pi 'c'ukpi ng'dcpm'qt" uj qt'gkpg'o c { 'dg'uw'h'k'k'p'0Y j gtg'dqj 'y gvrpf u'cpf 'qr gp'y cvgtu'gz'kv'qp'vj g'r tqlgcv'ukg. 'vj g" f kntlev'gpi kpggt'y kn'f gvgto kpg'vj g'cr r tqr tlcvg" eqo r gpucvqt { 'o kki cvkqp'\*g0'0'tkr ct'kcp'ctgcu" cpf lqt'y gvrpf u'eqo r gpucv'kqp'+dcugf "qp" y j cv'ku'dguv'hqt'vj g'cs wvle"gpxktqpo gpv'qp'c" y cvgtuj gf 'dcuku'0'kp'ecugu'y j gtg'tkr ct'kcp'ctgcu'ctg'f gvgto kpgf 'vq'dg'vj g'o quv'cr r tqr tlcvg'hqto " qh'o kpo k cvkqp'qt'eqo r gpucvqt { " o kki cvkqp. 'vj g'f kntlev'gpi kpggt'o c { 'y ckg'qt'tgf weg'vj g" tgs vktgo gpv'vq'r tqxkf g'y gvrpf "eqo r gpucvqt { 'o kki cvkqp'hqt'y gvrpf 'muugu'0'

\*h+ Ego r gpucvqt { 'o kki cvkqp'r tqlgcv'r tqxkf gf 'vq'qh'ugv'quugu'qh'cs wvle" tguqwtegu'o wuv'eqo r n'f 'y kj 'vj g'cr r n'cedng'r tqxkuk'apu'qh'55'EHT'r ctv'5540'

\*3+Vj g'r tqr gev'kg'r gto kwgg'ku'tgur qpukdg'hqt'r tqr qukpi 'cp'cr r tqr tlcvg" eqo r gpucvqt { 'o kki cvkqp'qr v'kqp'kh'eqo r gpucvqt { 'o kki cvkqp'ku'pgeguuct { 'vq'gpuwtg'vj cv' vj g" cevxxk' 'tguvnu'lp'pq'o qtg'vj cp'o kpo cn'cf xgtug'gpxktqpo gpvni'ghhgeu'0'Hqt'vj g" P Y Ru. 'vj g" r tghgtgf 'o gej cpluo 'hqt'r tqxkf kpi 'eqo r gpucvqt { 'o kki cvkqp'ku'o kki cvkqp" dcpm'etgf ku'qt'lp/

rlgw'hgg'r tqi tco 'etgf ku'\*ugg'55'EHT'55405\*d+\*4+cpf '\*5+0J qy gxgt.'kh'cp'cr r tqr tlcvg'pwo dgt"  
cpf 'v{r g'qh'o kki cvkqp'dcpnlt'lp/rlgw'etgf ku'ctg'pqv'cxckcdng'cv' yj g'vko g'yj g'REP'ku'uwo kwgf"  
vq'yj g'f kntlev'gpi kpggt.'yj g'f kntlev'gpi kpggt'o c{'cr r tqxg" yj g'wug'qh'r gto kwgg/tgur qpukdng"  
o kki cvkqp0

\*4+Vj g'co qwpv'qh'eqo r gpucvqt {'o kki cvkqp'tgs vktgf "d{'yj g'f kntlev'gpi kpggt'o wuv"  
dg"uw'hlekp'v'q'gpuwtg'yj cv'yj g'cwj qtk gf "cevkxkv'tguw'u'lp'pq'o qtg'yj cp'o loko cni'lpf kxf wcn"  
cpf "ewo wrcv'xg'cf xgtug'gpxktqpo gpvcn'gh'gewu'\*ugg'55'EHT'55203\*g+\*5+0\*Ugg"cuq'55'EHT"  
55405\*h+0

\*5+Ukpeg'yj g'rkng'kj qqf "qh'uweegu'ku'i tgcvg't'cpf 'yj g'ko r ceu'v'q'r qvgp'v'cm{"  
xcn'cdng'wr ncpf u'ctg'tgf wegf."cs wcvle'tguqwtg'tguqtcv'kqp'uj qwf "dg'yj g'htuv"  
eqo r gpucvqt {'o kki cvkqp'qr v'kqp'eqpukf gtgf "hqt'r gto kwgg/tgur qpukdng'o kki cvkqp0

\*6+K'r gto kwgg/tgur qpukdng'o kki cvkqp'ku'yj g'r tqr qugf "qr v'kqp.'yj g'r tqr ge'v'xg"  
r gto kwgg'ku'tgur qpukdng'hqt'uwo kxkpi "c'o kki cvkqp'r ncp0C"eqpegr wcn'qt'f g'ckngf "o kki cvkqp"  
r ncp'o c{'dg'wugf "d{'yj g'f kntlev'gpi kpggt'v'q'o cng'yj g'f gekukqp'qp'yj g'P Y R"xgt'k'ecv'kqp'tgs wguv."  
dw'c'hkpcn'o kki cvkqp'r ncp'yj cv'cf f tguugu'yj g'cr r n'cdng'tgs vktgo gpw' qh'55'EHT'55406\*e+\*4+  
yj tqwi j \*36+o wu'dg'cr r tqxgf "d{'yj g'f kntlev'gpi kpggt'dgh'qtg'yj g'r gto kwgg'dgi kpu'y qtn'lp"  
y cvgtu'qh'yj g'Wpk'gf "Ucv'gu.'wpr'guu'yj g'f kntlev'gpi kpggt'f g'vto kpgu'yj cv'r t'kt'cr r tqx'cn'qh'yj g"  
h'kpcn'o kki cvkqp'r ncp'ku'pqv'r t'ce'v'cdng'qt'pqv' pgeguuct {'v'q'gpuwtg'vko gn' "eqo r ng'v'kqp'qh'yj g"  
tgs vktgf "eqo r gpucvqt {'o kki cvkqp'\*ugg'55' EHT'55406\*m+\*5+0

\*7+K'o kki cvkqp'dcpnlt'lp/rlgw'hgg'r tqi tco 'etgf ku'ctg'yj g'r tqr qugf "qr v'kqp.'yj g"  
o kki cvkqp'r ncp'qp'nf "pggf u'v'q'cf f tguu'yj g'dcug'rkpg'eqpf k'k'qpu'cv'yj g'ko r ce'v'v'xg'cpf 'yj g"  
pwo dgt'qh'etgf ku'v'q'dg'r tqx'kf gf 0

\*8+Ego r gpucvqt {'o kki cvkqp'tgs vktgo gpw'\*g'0'tguqwtg'v'r g'cpf "co qwp'v'q'dg"  
r tqx'kf gf "cu'eqo r gpucvqt {'o kki cvkqp.'uk'g'r tq'v'ev'kqp.'ge'q'qi k'cn'r gth'qto cpeg'uv'cpf ctf u."  
o qpk'qt'kpi 'tgs vktgo gpw'+o c{'dg'cf f tguugf 'yj tqwi j "eqpf k'k'qpu'cf f gf "v'q'yj g'P Y R"  
cwj qtk cvkqp.'kpu'v'cf "qh'eqo r qp'gpw'qh'c'eqo r gpucvqt {'o kki cvkqp'r ncp'\*ugg'55'EHT"  
55406\*e+\*3+\*k+0

\*i + Ego r gpucvqt {'o kki cvkqp'y k'p'pqv'dg'wugf "v'q'k'pet'g'cug'yj g'cet'gci g'h'quugu"  
cm'qy gf "d{'yj g'cet'gci g'iko ku'qh'yj g'P Y Ru0Hqt'gz'co r ng.'kh'cp'P Y R'j cu'cp'cet'gci g'iko k'v'qh"  
34/cetg.'k'v'ecpp'qv'dg'wugf "v'q'cwj qtk g'cp {'P Y R'ce'v'x'kv't'guw'n'kpi 'lp'yj g'h'quu'qh'i tgc'v't'yj cp"  
34/cetg'qh'yj cvgtu'qh'yj g'Wpk'gf "Ucv'gu.'gx'gp'kh'eqo r gpucvqt {'o kki cvkqp'ku' r tqx'kf gf "yj cv"  
tgr n'ceg'qt'tguq'tgu'u'qo g'qh'yj g'h'quu'yj cvgtu0J qy gxgt.'eqo r gpucvqt {'o kki cvkqp'ecp'cpf "uj qwf"  
dg'wugf."cu'pgeguuct {'v'q'gpuwtg'yj cv'cp'P Y R'ce'v'x'kv'ct'g'cf {"o g'v'kpi 'yj g'gu'v'cd'k'uj gf "cet'gci g"  
iko ku'cu'q'uc'v'k'k'gu'yj g'pq'o qtg'yj cp'o loko cni'ko r ce'v' tgs vktgo gpv'hqt'yj g'P Y Ru0

\*j + Rgto kwgg'u'o c{'r tqr qug'yj g'wug'qh'o kki cvkqp'dcpnu.'lp/rlgw'hgg'r tqi tco u.'qt"  
r gto kwgg/tgur qpukdng'o kki cvkqp0Y j gp'f g'x'g'nr kpi "c'eqo r gpucvqt {'o kki cvkqp'r tqr qucn" yj g"  
r gto kwgg'o wu'v'eqpukf gt'cr r tqr tlc'v'g'cpf "r t'ce'v'cdng'qr v'kpu'eqpuk'v'p'yj k'j "yj g" h'co gy qtn'icv"  
55'EHT'55405\*d+0 Hqt'ce'v'x'k'kgu't'guw'n'kpi 'lp'yj g'h'quu'qh'o ctk'p'g'qt'gu'w'ct'k'p'g' tguqwtg'u."  
r gto kwgg/tgur qpukdng'o kki cvkqp'o c{'dg'g'p'x'ktqpo gpvcn'f "r t'gh'et'cdng'kh'yj g'tg" ctg'pq'o kki cvkqp"  
dcpnu'qt'lp/rlgw'hgg'r tqi tco u'lp'yj g'ct'g'c'yj cv'j cxg'o ctk'p'g'qt'gu'w'ct'k'p'g' etgf ku'cx'ck'cdng'hqt"  
ucrg'qt't'cp'uh't'v'q'yj g'r gto kwgg0Hqt'r gto kwgg/tgur qpukdng'o kki cvkqp.'yj g'ur gek'n'eqpf k'k'qpu'qh'  
yj g'P Y R'xgt'k'ecv'kqp'o wu'v'eng'ctn'f "k'p'f'k'ec'v'yj g'r ct'v'f "qt'r ct'v'gu'tgur qpukdng'hqt'yj g"  
ko r ngo gp'v'k'qp'cpf "r gth'qto cpeg'qh'yj g'eqo r gpucvqt {'o kki cvkqp'r tq'lg'ev'cpf."kh'tgs vktgf."ku"  
n'p'pi /v'gto "o cpci go gp0

\*k+ Y j g'tg'egt'v'clp'h'p'ev'k'qpu'cpf "ugt'x'legu'qh'yj cvgtu'qh'yj g'Wpk'gf "Ucv'gu'ctg"  
r gto cpg'p'v'nf "cf xgtugn'f "ch'g'ewf "d{'c'tgi wrc'v'f "ce'v'x'kv'f."uwej "cu'f k'uej cti gu'qh'f tgf i gf "qt'h'kni"

o cvgtkcnlpq'y cvgtu'qh'yj g'Wpkgf "Ucvgu'yj cv'y knieqpxgtv'c'htgugvf "qt'uetwd/uj twd'y gncpf "vq"  
c'j gtdcegquw'y gncpf "kp'c'r gto cpgrp' "o clpckpgf "wkrk' "hpg'tki j vqh'y c'."o kki cvkqp'o c'{"dg"  
tgs vkt gf "vq'tgf wvg'yj g'cf xgtug'gpxktqpo gpv'cn'ghgewu'qh'yj g'cevkkv' "vq" yj g'pq'o qtg'yj cp"  
o kpo cn'rgxgr'0  
"

460 Uchgv' "qh'K6 r qwpf o gpv'Utwewtgu'0Vq"gpwut g'yj cv'cmko r qwpf o gpv'utwewtgu"  
ctg'uchgn' "f guki pgf . "yj g'f kntlev'gpi kpggt'o c'{"tgs vkt g'pqp/Hgf gtcn'cr r rncpvi'vq" f go qpuntcv' yj cv'  
yj g'utwewtgu'eqo r n' "y kj "gucdrkuj gf "ucvg' f co "uchgv' "etkgtlc'qt" j cxg" dggp' f guki pgf "d' "  
s wcn'hkgf "r gtuqu'0Vj g'f kntlev'gpi kpggt'o c'{"cnuq'tgs vkt g'f qewo gpvcvqp" yj cv'yj g'f guki p'j cu"  
dggp' kpf gr gpf gpv' "t'gkgy gf "d' "uko krcn' "s wcn'hkgf "r gtuqu. "cpf "cr r tqr tlcvg'o qf kkecvkpu"  
o cf g'vq"gpwut g'uchgv'0  
"

470 Y cvgt'S wcrkv'0Y j gtg'Ucvgu'cpf "cwj qtk gf "Vtkdgu."qt"GRC"y j gtg'cr r rkecdrg."  
j cxg'pqv'r t'gkxqwn' "egt'v'hkgf "eqo r rncpeg'qh'cp" P Y R'y kj "E Y C"ugevqp'623. "kpf kxkf wcn'623"  
Y cvgt'S wcrkv' "Egt'v'hkecvkp"o wuv'dg'qdvclpgf "qt'y ckgf "ugg'55'EHT'55206\*+0Vj g'f kntlev'  
gpi kpggt'qt"Ucvg'qt"Vtkdg'o c'{"tgs vkt g'cf f kkpncn'y cvgt's wcrkv' "o cpci go gpv'o gcuwtgu'vq"gpwut g'  
yj cv'yj g'cwj qtk gf "cevkkv' "f qgu'pqv'tguwn'kp"o qtg'yj cp"o kpo cn'f gi tcf cvkqp'qh'y cvgt's wcrkv'0  
"

480 Eqcucn' qpg'O cpci go gpv'0Kp'eqcucn'ucvgu'yj gtg'cp" P Y R'j cu'pqv'r t'gkxqwn' "  
t'gkxgf "c'ucvg'eqcucn' qpg'o cpci go gpv'eqpukngpe{"eqpewttgpeg."cp" kpf kxkf wcn'ucvg'eqcucn'  
| qpg'o cpci go gpv'eqpukngpe{"eqpewttgpeg"o wuv'dg'qdvclpgf . "qt" c' r tguwo r vqp'qh'eqpewttgpeg"  
o wuv'qeewt "ugg'55'EHT'55206\*f +0Vj g'f kntlev'gpi kpggt'qt" c' "Ucvg'o c'{"tgs vkt g'cf f kkpncn'  
o gcuwtgu'vq"gpwut g'yj cv'yj g'cwj qtk gf "cevkkv' "ku'eqpukngpv" y kj "ucvg'eqcucn' qpg'o cpci go gpv'  
tgs vkt go gpv'0  
"

490 Tgi kqpcn'cpf "Ecug/D{/Ecug'Eqpf kkpqu'0Vj g'cevkkv' "o wuv'eqo r n' "y kj "cp{ "  
tgi kqpcn'eqpf kkpqu'yj cv'o c'{"j cxg'dggp'cf f gf "d' {"y j g'F kxkukp"Gpi kpggt "ugg'55'EHT'55206\*g++"  
cpf "y kj "cp{"ecug'ur gekhe"eqpf kkpqu'cf f gf "d' {"y j g'Eqtr u'qt"d' {"y j g'ucvg. "kpf kcp"Vtkdg."qt"WLU'  
GRC"kp'ku'ugevqp'623"Y cvgt'S wcrkv' "Egt'v'hkecvkp."qt"d' {"y j g'ucvg'kp'ku'Eqcucn' qpg"  
O cpci go gpv'Ce'eqpukngpe{"f gvgto kpcvqp0  
"

4: 0 Wug'qh'O wnr ng'P cvkqpy kf g'Rgto ku'0Vj g'wug'qh'o qtg'yj cp"qpg'P Y R'ht" c"  
ukpi ng'cpf "eqo r ngv'r tqlgev'ku'r tqj kdkgf . "gzege v'y j gp'yj g'cetgci g'hquu'qh'y cvgtu'qh'yj g'Wpkgf "  
Ucvgu'cwj qtk gf "d' {"y j g'P Y Ru'f qgu'pqv'gzeggf "y j g'cetgci g'iko k'qh'yj g'P Y R'y kj "y j g'j ki j guv"  
ur gek'hkgf "cetgci g'iko k'0Hqt"gzco r ng. "h'c'tqcf "etquukpi "qxgt "v'cn'y cvgtu" ku'eqpuxwvgf "v'pf gt"  
P Y R'36."y kj "cuuqekvgf "dcpm'ucdrk' cvkqp'cwj qtk gf "d' {"P Y R'35."y j g'o czko wo "cetgci g'hquu'  
qh'y cvgtu'qh'yj g'Wpkgf "Ucvgu'ht"y j g'v'cn'r tqlgevecppqv"gzeggf "3 I5/cetg0  
"

4: 0 Vtcpuht'qh'P cvkqpy kf g'Rgto k'Xgt'hkecvkp'0K'v'j g'r gto kwgg'ugm'yj g'r tqr gtv' "  
cuuqekvgf "y kj "c'p'cvkqpy kf g'r gto k'xgt'hkecvkp."y j g'r gto kwgg'o c'{"vtcpuht'yj g'p'cvkqpy kf g"  
r gto k'xgt'hkecvkp'vq'yj g'pgy "qy pgt"d' {"u'wdo k'kpi "c'rgwgt'vq'yj g'cr r tqr tlcvg' Eqtr u'f kntlev'  
qh'hkg'vq'xcrkf cvg'yj g'vtcpuht'0C'eqr {"qh'yj g'p'cvkqpy kf g'r gto k'xgt'hkecvkp"o wuv'dg'cwcej gf "vq"  
yj g'rgwgt. "cpf "y j g'rgwgt"o wuv'eqpckp'yj g'hqmy kpi "ucvgo gpv'cpf "uki pcwtg<  
ōY j gp'yj g'utwewtgu'qt"y qtn'cwj qtk gf "d' {"y j k'p'cvkqpy kf g'r gto k'etg'ukn'lp" gzkgpeg'cv'yj g"  
vko g'yj g'r tqr gtv' "ku'vtcpuht'gtgf . "y j g'v'gto u'cpf "eqpf kkpqu'qh'yj ku'p'cvkqpy kf g'r gto k'k'p'cn'f kpi "  
cp{"ur gekn'eqpf kkpqu."y knieqpvkpwg'vq"dg'dkpf kpi "qp'yj g'pgy "qy pgt \*u+qh'yj g'r tqr gtv'0Vq"  
"

xcrkf cvg'yj g'vcpuhgt'qh'yj ku'pcvqpy kf g'r gto k'cpf 'yj g'cuuqekcvgf 'hcdkxkgu'cuuqekcvgf 'y kj " eqo r rkepeg'y kj 'ku'vgtu u'cpf 'eqpf kxqpu."j cxg'yj g'vcpuhgtgg'uki p'cpf 'f cvg'dgny 0

"  
"

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\*Vtcpuhtgg+ "

"  
"

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\*F cvg+ "

520 Eqo r rkepeg'Egtvkecvkp0Gcej 'r gto kvgg'yj q'tgegxkgu'cp'P Y R'xgtkhecvkp" rgwgt'htqo 'yj g'Eqtr u'o wuv'r tqxkf g'c'uki pgf 'egt vkecvkp'f qewo gpv'pi "eqo r rgvqp'qh'yj g" cwj qtk gf 'cevxkv' 'cpf 'lo r ngo gpvcvqp'qh'cp{ 'tgs vktgf 'eqo r gpucvqt{ 'o kki cvkp0" Vj g" uweegu'qh'cp{ 'tgs vktgf 'r gto kvgg/tgur qpukdg'o kki cvkp. 'kpenw' lpi 'yj g'cej lxxgo gpv'qh' geqmi kcn'r gthqto cpeg'ucpf ctf u.'y kn'dg'cf f tguugf 'ugr ctcvgn{ 'd{ 'yj g'f kntlev'gpi kpggt0' Vj g' Eqtr u'y kn'r tqxkf g'yj g'r gto kvgg'yj g'egt vkecvkp'f qewo gpv'y kj 'yj g'P Y R' xgtkhecvkp'rgwgt0' Vj g'egt vkecvkp'f qewo gpv'y knlpenw' g<

\*c+ C'ucvgo gpv'yj cv'yj g'cwj qtk gf 'cevxkv' 'y cu'f qpg'lp'ceeqtf cpeg'y kj 'yj g'P Y R' cwj qtk cvkp. 'kpenw' lpi 'cp{ 'i gpgtcn'tgi kqpcn'qt'cevxkv{/ur gekhe'eqpf kxqpu=

\*d+ C'ucvgo gpv'yj cv'yj g'lo r ngo gpvcvqp'qh'cp{ 'tgs vktgf 'eqo r gpucvqt{ 'o kki cvkp" y cu'eqo r rgvgf 'lp'ceeqtf cpeg'y kj 'yj g'r gto k'eqpf kxqpu0'k'etgf ku'htqo "c'o kki cvkp" dcpn'qt" kp'rkgh'gg'r tqi tco 'ctg'wugf 'v'ucvuh{ 'yj g'eqo r gpucvqt{ 'o kki cvkp'tgs vktgo gpv." yj g" egt vkecvkp'o wuv'kpenw' g'yj g'f qewo gpvcvqp'tgs vktgf 'd{ '55'EHT'55405'n#5+'v'eqphkto 'yj cv' yj g'r gto kvgg'ugewtgf 'yj g'cr r tqr tlcvg'pwo dgt'cpf 'tguqwtg'v'r g'qh'etgf ku=" cpf "

\*e+ Vj g'uki pcwtg'qh'yj g'r gto kvgg'egt vkh' lpi 'yj g'eqo r rgvqp'qh'yj g'cevxkv' 'cpf " o kki cvkp0

Vj g'eqo r rgvgf 'egt vkecvkp'f qewo gpv'o wuv'dg'uwo kvgf 'v'yj g'f kntlev'gpi kpggt" y kj lp'52'f c{ u'qh'eqo r rgvqp'qh'yj g'cwj qtk gf 'cevxkv' 'qt' yj g'lo r ngo gpvcvqp'qh'cp{ " tgs vktgf " eqo r gpucvqt{ 'o kki cvkp." yj j kej gxgt'qeewtu'rcvgt0

"

530 Cevxkxkgu'Chgevp' 'Utwewtgu'qt'Y qtm'Dwkn'd{ 'yj g'Wpkvgf 'Ucvgu0'k'cp'P Y R' cevxkv' 'cnuq'tgs vktgu'r gto kuqkp'htqo 'yj g'Eqtr u'r wtuwcpv'v'q'55'WUE062: "dgecwug" k'y kn'cngt" qt'vgo r qtctkn'qt'r gto cpgpvn' 'qeewr { 'qt'wug'c'WUOCto { 'Eqtr u'qh'Gpi kpggtu" \*WUCEG+" hgf gtcn{ 'cwj qtk gf 'Ekxki'Y qtm'r tqlgew\*c'ōWUCEG'r tqlgewö+ 'yj g'r tqur gevkg'r gto kvgg'o wuv' uwo k'c'r tg/eqputwcvkp'pqvkecvkp0Ugg'r ctcj tcr j \*d+\*32+'qh'i gpgtcn'eqpf kxqpu'540' Cp" cevxkv' 'yj cv'tgs vktgu'ugevqp'62: 'r gto kuqkp'ku'pq'cwj qtk gf 'd{ 'P Y R'wvkn'yj g'cr r tqr tlcvg" Eqtr u'qh'heg'kuwgu'yj g'ugevqp'62: 'r gto kuqkp'v'cngt. "qeewr { . 'qt'wug'yj g'WUCEG'r tqlgew'cpf " yj g'f kntlev'gpi kpggt'kuwgu'c'y tkwgp'P Y R'xgtkhecvkp0

"

540 Rtg/Eqputwcvkp'P qvkecvkp0\*c+'Vlo lpi 0Y j gtg'tgs vktgf 'd{ 'yj g'vgtu u'qh'yj g' P Y R.'yj g'r tqur gevkg'r gto kvgg'o wuv'pqvkh{ 'yj g'f kntlev'gpi kpggt'd{ 'uwo kxpi "c'r tg" eqputwcvkp'pqvkecvkp"REP +cu'gctn'cu'r qukdrg0Vj g'f kntlev'gpi kpggt'o wuv'f gvgtu kpg" kn'yj g" REP 'ku'eqo r rgvg'y kj lp'52'ecngpf ct'f c{ u'qh'yj g'f cvg'qh'tgegr v'cpf . 'kn'yj g'REP 'ku'f gvgtu kpgf 'v' dg'lp'eqo r rgvg.'pqvkh{ 'yj g'r tqur gevkg'r gto kvgg'y kj lp'yj cv52'f c{ 'r gtkqf 'v' tgs wguv'yj g" cf f kqpcn'lphqto cvkp'pgeguct{ 'v'o cng'yj g'REP "eqo r rgvg0Vj g'tgs wguv'o wuv'ur gekh{ 'yj g" lphqto cvkp'pggf gf 'v'o cng'yj g'REP "eqo r rgvg0Cu'c'i gpgtcn'twg. "f kntlev'gpi kpggtu'y kn'tgs wguv' cf f kqpcn'lphqto cvkp'pgeguct{ 'v'o cng'yj g'REP "eqo r rgvg'qpn{ "qpeg0J qy gxgt. 'kn'yj g"

"

r tqur gevxxg'r gto kwgg'f qgu'pqv'r tqxkf g'cm'qh'v'j g'tgs wguvf 'lphqto cvkqp. 'v'j gp 'v'j g'f kntlev' gpi kpggt 'y knlpqvh' 'v'j g'r tqur gevxxg'r gto kwgg'v'j cv'v'j g'REP 'ku'ukmlpeqo r ngv'cpf 'v'j g'REP "tgxkgy 'r tqegu'y knlpqv'eqo o gpeg'wpvkn'cm'qh'v'j g'tgs wguvf 'lphqto cvkqp'j cu'dggp'tgegkxgf 'd{ "v'j g'f kntlev'gpi kpggt0Vj g'r tqur gevxxg'r gto kwgg'uj cm'pqv'dgi kp'v'j g'cevxxkv' 'wpvkn'gkj gt<

\*3+J g'qt'uj g'ku'pqv'hk'f 'kp'y tkkpi 'd{ "v'j g'f kntlev'gpi kpggt'v'j cv'v'j g'cevxxkv' "o c{ "r tqeggf "wpf gt" 'v'j g" P Y R" y kj "cp{ "ur gekn'eqpf kkpqu" ko r qugf "d{ "v'j g'f kntlev'qt" f kxkqp" gpi kpggt="qt"

\*4+67'ecrgpf ct'f c{ u'j cxg'r cuugf 'htqo 'v'j g'f kntlev'gpi kpggt'ut'gegkr v'qh'v'j g' eqo r ngv'REP 'cpf 'v'j g'r tqur gevxxg'r gto kwgg'j cu'pqv'tgegkxgf 'y tkwgp'pqv'eg'htqo 'v'j g'f kntlev'qt" f kxkqp" gpi kpggt0J qy gxgt. 'kh'v'j g'r gto kwgg'y cu'tgs vktgf 'v'j g'Eqr u'r wtuwcpv'v'j i gpgtcn'eqpf kkp'3: 'v'j cv'kugf 'ur geku'qt'etkkn'j cdkcv'o ki j v'dg'ch'gevgf "qt" ctg'kp'v'j g'xkelpkv' qh'v'j g'cevxxkv'. 'qt'v'j g'Eqr u'r wtuwcpv'v'j i gpgtcn'eqpf kkp'42'v'j cv'v'j g'cevxxkv' "o ki j v' j cxg'v'j g'r qv'pkn'v'j 'ecwug'gh'geu'v'j' kvaqtke'r tqr gt'v'gu. 'v'j g'r gto kwgg'ecppqv'dgi kp'v'j g'cevxxkv' "wpvkn'tgegkxkp' 'y tkwgp'pqv'hk'ecv'kqp'htqo 'v'j g'Eqr u'v'j cv'v'j gtg'ku'öp'q'gh'geu'v'j' qv'kugf 'ur geku'qt" öpq'r qv'pkn'v'j 'ecwug'gh'geu'v'j' qv'kugf 'ur tqr gt'v'gu. 'qt'v'j cv'cp{ "eqpuwncv'kqp'tgs vktgf 'wpf gt" Ugev'kqp'9'qh'v'j g'Gpf cpi gtgf "Ur geku'Cev'ugg'55'EHT'55206'h++"cpf lqt'ugev'kqp'328'qh'v'j g' P cvkpcn'J kvaqtke'Rt'gugtxcv'kqp'Cev'ugg'55'EHT'55206\*+ 'v'j cu'dggp'eqo r ngv'f OCnuq. 'y qtn' ecppqv'dgi kp'wpf gt'P Y Ru'43.'6; . "qt'72'wpvkn'v'j g'r gto kwgg'j cu'tgegkxgf 'y tkwgp'cr r tqxcr'htqo " v'j g'Eqr u'0K'v'j g'r tqr qugf 'cevxxkv' 'tgs vktgu'c'v'j tkwgp'y clxgt'v'j g'zeggf 'ur gekh'gf 'h'o ku'qh'cp" P Y R. 'v'j g'r gto kwgg' o c{ "pqv'dgi kp'v'j g'cevxxkv' 'wpvkn'v'j g'f kntlev'gpi kpggt'kuwgu'v'j g'y clxgt'0K' v'j g'f kntlev'qt" f kxkqp" gpi kpggt'pqv'hk'gu'v'j g'r gto kwgg'kp'y tkkpi 'v'j cv'cp'lpf kxkf wcn'r gto k'ku' tgs vktgf 'y kj kp'67'ecrgpf ct'f c{ u'qh'tgegkr v'qh'c'eqo r ngv'REP. 'v'j g'r gto kwgg'ecppqv'dgi kp'v'j g' cevxxkv' "wpvkn'cp'lpf kxkf wcn'r gto k'v'j cu'dggp'qdv'kpgf 0Uwdugs wgpwn'. 'v'j g'r gto kwgg'ut'ki j v'v'j " r tqeggf 'wpf gt'v'j g'P Y R'o c{ "dg'o qf h'gf. 'uwur gpf gf. 'qt'tgxqngf 'qpn' 'kp'cee'qtf cpeg'y kj 'v'j g' r tqegf wtg'ugv'htq'v'j 'kp'55'EHT'55207\*+\*4+0'

\*d+ Eqv'g'p'w'qh'Rt'g/Eqpu'tw'ev'kqp'P'q'v'hk'ecv'kqp<'Vj g'REP "o wuv'dg'kp'y tkkpi "cpf " lpen'f g'v'j g'h'my lpi 'lphqto cvkqp<

\*3+P co g. 'cf f tgu'cpf 'v'g'r j qpg'pwo dgtu'qh'v'j g'r tqur gevxxg'r gto kwgg="

\*4+Nqecv'kqp"qh'v'j g'r tqr qugf 'cevxxkv'="

\*5+K'gpv'h' 'v'j g'ur gekh'le'P Y R'qt'P Y R'u+v'j g'r tqur gevxxg'r gto kwgg'y cpw'v'j 'wug' v'j cwj qtk' g'v'j g'r tqr qugf 'cevxxkv'="

\*6+C'f guetkr v'kqp'qh'v'j g'r tqr qugf 'cevxxkv'="v'j g'cevxxkv' u'r vtr qug="f k'gev'cpf "lpf k'gev' cf xgtug'gpxktqpo gpv'cn'gh'geu'v'j g'cevxxkv' 'y qwr' 'ecwug. 'lpen'f lpi 'v'j g'cpv'ekr cvgf "co qwpv'qh'h'mu' qh'v'j g'v'p'f u. 'qv'j gt'ur gekn'cs wv'le'ukgu. 'cpf 'qv'j gt'y cvgtu'g'zr gev'f 'v'j g'guwn'htqo 'v'j g'P Y R' cevxxkv'. 'kp'cetgu. 'h'p'gct' h'ggv. 'qt'qv'j gt'cr r tqr tk'v'g'wpk'qh'o gcuwtg="c'f guetkr v'kqp'qh'cp{ "r tqr qugf " o kki cvkqp'o gcuwtgu'lpv'p'f gf 'v'j g'f w'v'g'v'j g'cf xgtug'gpxktqpo gpv'cn'gh'geu'v'j 'ecwugf 'd{ "v'j g" r tqr qugf 'cevxxkv'="cpf "cp{ "qv'j gt'P Y R'u+ 'tgi kqpcn'i gpgtcn'r gto k'u+ 'qt'lpf kxkf wcn'r gto k'u+ 'wugf 'qt'lpv'p'f gf 'v'j g'dg'wugf 'v'j cwj qtk' g'cp{ "r ctv'qh'v'j g'r tqr qugf 'r tq'gev'qt'cp{ "t'g'v'gf 'cevxxkv'. " lpen'f lpi 'qv'j gt'ugr ctcv'g'cpf "f k'v'cpv'etquulpi u'h'q't'p'gct'r tq'gev'v'j cv'tgs vktg'F gr ctvo gpv'qh'v'j g" Cto { "cwj qtk' cvkqp'dw'f q'pqv'tgs vktg'r t'g'eqpu'tw'ev'kqp'pqv'hk'ecv'kqp'0Vj g'f guetkr v'kqp'qh'v'j g" r tqr qugf 'cevxxkv' "cpf "cp{ "r tqr qugf "o kki cvkqp'o gcuwtgu'uj qwr' "dg'uw'h'k'epv'nf "f g'v'k'gf 'v'j g'cm'y " v'j g'f kntlev' gpi kpggt'v'j g'v'gto kpg'v'j cv'v'j g'cf xgtug'gpxktqpo gpv'cn'gh'geu'v'j g'cevxxkv' 'y kn'idg" pq" o qtg'v'j cp'o k'p'o cn'cpf 'v'j g'v'gto kpg'v'j g'p'ggf 'h'q't'eqo r gpucv'qt{ "o kki cvkqp'qt'qv'j gt" o kki cvkqp'o gcuwtgu'0H'q't'ukpi ng'cpf 'eqo r ngv'h'p'gct'r tq'gev'v'j g'REP "o wuv'lpen'f g'v'j g" s wcpv'kv' 'qh'cpv'ekr cvgf 'h'qu'gu'qh'v'j g'v'p'f u. 'qv'j gt'ur gekn'cs wv'le'ukgu. 'cpf 'qv'j gt'y cvgtu'h'q't'gcej " ukpi ng'cpf 'eqo r ngv'etquulpi 'qh'v'j qug'y g'v'p'f u. 'qv'j gt'ur gekn'cs wv'le'ukgu. 'cpf 'qv'j gt'y cvgtu'0

Ungvej gu'uj qwf "dg'r tqxkf gf 'y j gp'pgeguuct { "v'uj qy 'y cv'j g'cevxxk\ "eqo r rkgu'y kj 'y g'vto u" qh'j g'P Y R0\*Ungvej gu'wucm\ "erctkh\ "y j g'cevxxk\ "cpf 'y j gp'r tqxkf gf "tguwmu'lp" c's wlengt" f gekukqp0Ungvej gu'uj qwf "eqpvckp'uwhelekp'v'f g'vckn'v'q'r tqxkf g'cp"knwutcvkxg'f guetkr vkp'qh'j g' r tqr qugf "cevxxk\ "g0 0'c"eqpegr wcn'r mcp+ "dw'f q'pqv'pggf " v'q'dg'f g'vckngf "gpi kpggtkpi 'r mpu="

\*7+Vj g'REP "o wuv'kpenmf g'c'f grkpgcvkqp'qh'y g'vcpf u."qy gt "ur gekn'cs wvke'ukgu." cpf "qy gt 'y cvgtu."uwej "cu'rcngu'cpf 'r qpf u."cpf 'r gtgppkcn'kpwto kwgpv."cpf "gr j go gtcn'utgco u." qp'yj g'r tqlgev'ukg0Y g'vcpf "f grkpgcvkqp'u" wuv'dg'r tgr ctgf "kp"ceeqtf cpeg'y kj "y g'ewtgpv" o gvj qf "tgs vktgf 'd { 'y g'Eqr u0Vj g'r gto kwgg'o c { "cum'yj g'Eqr u'v'q'f grkpgcvg" yj g'ur gekn' cs wvke'ukgu"cpf "qy gt 'y cvgtu"qp'yj g'r tqlgev'ukg."dw'yj gtg'o c { "dg'c'f g'rc { "kh' yj g'Eqr u'f qgu" yj g'f grkpgcvkqp."gur gekm\ "kh'yj g'r tqlgev'ukg'ku'rti g'qt"eqpvckp'u" cp { "y g'vcpf u."qy gt "ur gekn' cs wvke'ukgu."cpf "qy gt 'y cvgtu0Hwtj gto qtg."yj g'67'f c { "r g'vckngf "y kn'pqv'uctv'v'p'v'kh'yj g' f grkpgcvkqp"j cu'dggp'uwdo kwgf "v'q'qt"eqo r rkgv'f 'd { "y j g'Eqr u."cu' cr r tqr tlcvg="

\*8+Kj'yj g'r tqr qugf "cevxxk\ "y kn'iguw'lp'yj g'iquu'qh'i tgcvt "y cp"3B2/cetg'qh' y g'vcpf u"cpf "c'REP "ku'tgs vktgf."yj g'r tqr gevxxg'r gto kwgg'o wuv'uwdo k'c'ucvgo gpv' f guetkdkpi "j qy 'y j g'o kki cvkqp'tgs vktgo gpv'y kn'dg'ucvuhgf."qt"gzr mckpi "y j { "y j g' cf xgtug'gpxktpo gpv'cn'gh'geu'ctg'pq'o qtg'yj cp'o kpkc cn'cpf "y j { "eqo r gpucvt { " o kki cvkqp'uj qwf "pqv'dg'tgs vktgf 0Cu'cp'cn'gtpcvkg."yj g'r tqr gevxxg'r gto kwgg'o c { "uwdo k' c'eqpegr wcn'qt'f g'vckngf "o kki cvkqp'r mcp0

\*9+Hqt'pqp/Hgf gtcn'r gto kwggu."kh'cp { "rkngf "ur geku'qt'f guki pcvgf "etk'kecn'j cdkcv" o ki j v'dg'ch'gevgf "qt'ku'lp'yj g'xlekp\ "qh'yj g'cevxxk\."qt'kh'yj g'cevxxk\ "ku'qecvgf "lp'f guki pcvgf " etk'kecn'j cdkcv."yj g'REP "o wuv'kpenmf g'yj g'pco g'u+qh'yj qug"gp'cpi gtgf "qt"yj tgcvgpgf "ur geku" yj cv'o ki j v'dg'ch'gevgf 'd { "y j g'r tqr qugf "cevxxk\ "qt'wkn' g'yj g'f guki pcvgf "etk'kecn'j cdkcv'yj cv" o ki j v'dg'ch'gevgf 'd { "y j g'r tqr qugf "cevxxk\ 0' Hqt "P Y R"cevxxk'gu'yj cv'tgs vktg'r tg/eqputwkvqp" pqv'hecvkqp."Hgf gtcn'r gto kwggu'o wuv'r tqxkf g' f qewo gpvcvqp'f go qputcvkpi "eqo r rkepeg'y kj " yj g'Gpf cpi gtgf "Ur geku'Cev="

\*. +Hqt'pqp/Hgf gtcn'r gto kwggu."kh'yj g'P Y R"cevxxk\ "o ki j v'j cxg'yj g'r qvgpvkn'v'q" ecwug'gh'geu'v'q'c'j kvqtke'r tqr gtv' "rkngf "qp."f gyto kpgf "v'q'dg'gri kng'hqt'rknp'qp."qt" r qvgpvkm\ "gri kng'hqt'rknp'qp."y j g'P cvkqpcn'T gi kvgt'qh'J kvqtke'Rrcegu."yj g'REP "o wuv'ucv" y j kej "j kvqtke'r tqr gtv' "o ki j v'j cxg'yj g'r qvgpvkn'v'q'dg'ch'gevgf 'd { "y j g'r tqr qugf "cevxxk\ "qt" kpenmf g'c'xlekp\ "o cr "lpf kcvkpi "y j g'qecvkvqp'qh'yj g'j kvqtke'r tqr gtv' 0Hqt "P Y R"cevxxk'gu'yj cv' tgs vktg'r tg/eqputwkvqp"pqv'hecvkqp."Hgf gtcn'r gto kwggu'o wuv'r tqxkf g' f qewo gpvcvqp" f go qputcvkpi "eqo r rkepeg'y kj "ugevkvqp"328'qh'yj g'P cvkqpcn'J kvqtke" Rtugt'xcvkvqp'Cev="

\*, +Hqt'cp'cevxxk\ "y cv'y kn'qeev'lp" c'eqo r qp'gpv'qh'yj g'P cvkqpcn'Y kf "cpf "Uegple" Tkxgt"U { uvg. "qt'lp'c'tkxgt'qh'hecm\ "f guki pcvgf 'd { "Eqpi tguu'cu'c'ouwf { "tkxgt'o'hqt"r quukng" kpenmkqp'lp'yj g'u'vgo "y j kg'yj g'tkxgt'ku'lp'cp'qh'hecn'uwf { "ucwu."yj g'REP "o wuv'kf gpv'kh' "y j g' Y kf "cpf "Uegple"Tkxgt"qt'yj g'ouwf { "tkxgt'o"ugg'i gp'gtcn'eqpf kkvqp"38="cpf "

\*32+Hqt'cp'cevxxk\ "y cv'tgs vktgu'r gto kuukqp'htqo "y j g'Eqr u'r wtuwcpv'v'q"55"WUE0' 62: "dgecwug'kv'y kn'cn'gt'qt'vgo r qtctkn' "qt'r gto cpgpv' "qeev { "qt'wug'c"WU0Cto { "Eqr u' qh' Gpi kpggtu'hgf gtcn' "cwj qtk gf "ekxk'y qtm'r tqlgev."yj g'r tg/eqputwkvqp"pqv'hecvkqp" o wuv' kpenmf g'c'ucvgo gpv'eqph'kto kpi "y cv'yj g'r tqlgev'r tqr qp'gpv'yj cu'uwdo kwgf "c'y tkwgp" tgs wgu'hqt" ugevkvqp"62: "r gto kuukqp'htqo "y j g'Eqr u'qh'heg'j cxkpi "lwt'kf kcvkqp"qxgt'yj cv"WUCEG'r tqlgev0

\*e+ Hqto "qh'Rtg/Eqputwkvqp"pqv'hecvkqp"<Vj g'ucpf ctf "lpf k'kf wcn'r gto k' cr r rkecvkqp'hqto "Hqto "GPI "6567'+o c { "dg'wugf."dw'yj g'eqo r rkgv'f "cr r rkecvkqp'hqto "o wuv' engctn' "lpf kcvg'yj cv'k'ku'cp" P Y R'REP "cpf "o wuv'kpenmf g'cm'qh'yj g'cr r rkecdng" lphqto cvkqp" tgs vktgf "lp'r ctei ter j u'd+3+yj tqwi j "32+qh'yj ku'i gp'gtcn'eqpf kkvqp0C"rgvgt" eqpvckp'pi "y j g' tgs vktgf "lphqto cvkqp"o c { "cnq'dg'wugf 0"Cr r rkecpw'o c { "r tqxkf g'g'gevtqple"kn'gu'qh'REP u'cpf "



uwr rqtłpi "o cvgtkcn'kh'y g'f kntlev'gpi kpggt'j cu'gucdrkuj gf "vqnu'cpf "r tqegf wtgu'ht "grgevtqple" uwd o kvcn0'

\*f+ Ci gpe { "Eqqtf kpcvkqp<\*3+"Vj g'f kntlev'gpi kpggt'y knieqpułf gt "cp { "eqo o gpwu" htqo "Hgf gtcn'cpf "ucvg'ci gpeku'eqpegtłpi "y g'r tqr qugf "cevxxk\ ō'eqo r rkepeg'y kj "y g'vgt o u" cpf "eqpf kłqpu'qh'y g'P Y Ru'cpf "y g'pggf "ht"o kki cvkqp"vq'tgf weg'y g'cevxxk\ ō'cf xgtug" gpłktpo gpvcn'ghgeu'uq'y cv'y g { "ctg"pq"o qtg'y cp"o kłko cñ0'

\*4+Ci gpe { "eqqtf kpcvkqp"ku'tgs wktgf "ht<\*k+cm'P Y R'cevxxkku'y cv'tgs wktg'r tg/" eqputwvkqp"pqłhecvkqp"cpf "tguwn'lp'y g'quu'qh'i tgcvt'y cp"34/cetg'qh'y cvgtu'qh'y g' Wpkgf " Ucvu=\*k+P Y R'43."4; .5; .62."64."65."66."72."73."cpf "74"cevxxkku'y cv'tgs wktg'r tg/ eqputwvkqp"pqłhecvkqp"cpf "y knitguwn'lp'y g'quu'qh'i tgcvt'y cp"522'łkpgct'ggv'qh'utgco " dgf=\*k+P Y R'35"cevxxkku'lp"gzegu'qh'722'łkpgct'ggv'hm'i tgcvt'y cp"qpg'ewdke" { ctf "r gt" twppłpi "hqqv'qt'łpxqrg'f kiej cti gu'qh'f tgf i gf "qt'hm'o cvgtkcn'lpv'ur gekn'cs wvke'ukgu=cpf " \*k+P Y R'76"cevxxkku'lp"gzegu'qh'722'łkpgct'ggv'qt'y cv'gzvpgf "lpv'y g'y cvgtđqf { "o qtg'y cp" 52'ggv'htqo "y g'o gcp'iqy "y cvgt'łkpg'lp"wf cn'y cvgtu'qt'y g" qtf łpct { "j ki j "y cvgt"o ctnłk'y g" I tgcv'Ncngu0'

\*5+Y j gp'ci gpe { "eqqtf kpcvkqp"ku'tgs wktgf . "y g'f kntlev'gpi kpggt'y kni o gf kvcn\ " r tqłkf g'\*gđ 0'xlc" g/o ckn'heuko krg'vcpuo kułqp. "qxgtłki j v'o ckn'qt"qy gt "gzt gf kłqwu" o cpggt+c" eqr { "qh'y g'eqo r rvg'REP "vq'y g'cr r tqr tlcvg'Hgf gtcn'qt"ucvg'qh'hegu"\*HY U. "ucvg'pcwtcn' tguqweg'qt"y cvgt's wcrk\ "ci gpe { . "GRC. "cpf . "h'cr r tqr tlcvg. "y g'P O HU+0Y kj "y g'gzegr vqp'qh' P Y R'59. "y gug'ci gpeku'y kni' cxg'32"ecrgpf ct'f c { u'htqo "y g'f cvg'y g"o cvgtkcn'ku'vcpuo kwgf "vq" pqłh\ "y g'f kntlev'gpi kpggt'xlc"vgr j ppg. "heuko krg" vcpuo kułqp. "qt" g/o ckn'y cv'y g { "łpvpgf "vq" r tqłkf g'uwdvcpvkg. "ukg/ur gekhe"eqo o gpwu0' Vj g'eqo o gpwu'o wuv'gzt r klp'y j { "y g'ci gpe { " dgrkgxu'y g'cf xgtug"gpłktpo gpvcn'ghgeu"y kni'dg"o qtg'y cp"o kłko cñ0'ku'eqpvcevgf "d { "cp" ci gpe { . "y g'f kntlev'gpi kpggt'y kni'y ck'cp'cf f kłqpcn'37"ecrgpf ct'f c { u'dghqtg"o ctnłpi "c'f gekuqp" qp'y g'r tg/eqputwvkqp"pqłhecvkqp0' Vj g'f kntlev'gpi kpggt'y kni'hw\ "eqpułf gt"ci gpe { "eqo o gpwu" tgegkxgf "y kj lp'y g'ur gekłgf "vko g'htco g'eqpegtłpi "y g'r tqr qugf "cevxxk\ ō'eqo r rkepeg'y kj " y g'vgt o u'cpf "eqpf kłqpu'qh'y g'P Y Ru. "łpenmłpi "y g'pggf "ht"o kki cvkqp"vq'gpwtg'y g'pgv" cf xgtug"gpłktpo gpvcn' ghgeu'qh'y g'r tqr qugf "cevxxk\ "ctg"pq"o qtg'y cp"o kłko cñ0'Vj g'f kntlev' gpi kpggt'y kni'r tqłkf g'pq'tgur qpug"vq'y g'tguqweg'ci gpe { . "gzegr v'cu'r tqłkf gf "dgrqy 0'Vj g" f kntlev'gpi kpggt'y kni'łpf kcvg'lp'y g'cf o kłkmtcvkg'tgeqtf "cuqekcvgf "y kj "gcej "r tg/eqputwvkqp" pqłhecvkqp"y cv'y g'tguqweg'ci gpeku'eqpegtłpi'y gtg'eqpułf gtgf 0'ht'P Y R'59. "y g"go gti gpe { " y cvgtuj gf "r tqvgevkqp"cpf "tgj cdkkcvkqp"cevxxk\ "o c { "r tqeggf "ko o gf kvcn\ "lp" ecugu'y j gtg'y gtg" ku'cp'vpceegr vdrj'j c { ctf "vq'łhg'qt" c'uki płłkecpv'quu'qh'r tqr gtv\ "qt" geqpgo ke'j ctf uj kr "y kni' qeew0'Vj g'f kntlev'gpi kpggt'y knieqpułf gt"cp { "eqo o gpwu'tgegkxgf "vq'f gekf g'y j gj gt'y g'P Y R' 59"cwj qtłk cvkqp"uj qwf "dg"o qf kłgf . "uwur gpf gf . "qt'tgxqngf "lp"ceeqtf cpeg'y kj "y g'r tqegf wtgu" cv55'EHT'552070'

\*6+Kp'ecugu'qh'y j gtg'y g'r tqur gevkg'r gto kwgg'ku'pqv'c'Hgf gtcn'ci gpe { . "y g'f kntlev' gpi kpggt'y kni'r tqłkf g'c'tgur qpug"vq'P O HU'y kj lp"52"ecrgpf ct'f c { u'qh'tgegr v'qh'cp { "Guugpvkn' Hkuj "J cdkcv'eqpugtxcvkqp'tgeqo o gpf cvkpu. "cu'tgs wktgf "d { "ugevkqp"527\*d+\*6+D+qh'y g" O ci puuqp/Uvgxgpu'Hkuj gt { "Eqpugtxcvkqp"cpf "O cpci go gpv'Cev0'

\*7+Cr r rkecpw'ctg'gpeqwtci gf "vq'r tqłkf g'y g'Eqtr u'y kj "gkj gt "grgevtqple"łkgu'qt" o wnr rg'eqr kgu'qh'r tg/eqputwvkqp"pqłhecvkqp"vq'gzt gf kg'ci gpe { "eqqtf kpcvkqp0'

"

### **DISTRICT ENGINEER'S DECISION**

"

30 Kp'tgxky łpi "y g'REP "ht"y g'r tqr qugf "cevxxk\ . "y g'f kntlev'gpi kpggt'y kni' f gvt o łpg'y j gj gt "y g'cevxxk\ "cwj qtłk gf "d { "y g'P Y R'y knitguwn'lp"o qtg'y cp"o kłko cñ0'

"

lpf kxkf wcn'qt "ewo wvwxg'cf xgtug'gpxktqpo gpvni'ghhgewu'qt'o c{"dg'eqpvtct{"v'j g'r wdrle"  
 kpvtguv0" Kic'r tqlgev'r tqr qpvp'tgs wguu'cwj qtk c'v'p'd{"c'ur gekhe'P Y R."j g'f kntlev'gpi kpggt"  
 uj qwf "kuuwg'j g'P Y R'xgtkhecvkp'hqt'j cv'cevxxk{"h'k'o ggw'j g'v'gto u'cpf "eqpf kkp'u'qh'j cv"  
 P Y R."wprgu'j g'qt'uj g'f g'v'gto kpgu."chgt'eqpukf gtlpi "o kki cvkp."j cv'j g'r tqr qugf "cevxxk{"y kmi  
 tguwv'lp"o qtg'j cp"o kpo cni'lpf kxkf wcn'cpf "ewo wvwxg'cf xgtug'ghhgewu'qp'j g'cs wvle"  
 gpxktqpo gpv'cpf "qj g't'cur gewu'qh'j g'r wdrle'kpvtguv'cpf "gz gtekuu" f kuetgkqpc{"cwj qtk{"v"  
 tgs wkt'g'cp'lpf kxkf wcn'r gto k'hqt'j g'r tqr qugf "cevxxk{"0' Hqt" c' "npgct'r tqlgev."j k'f g'v'gto kpcvqp"  
 y kmi'penf g'cp'gxcn'wcvkp'qh'j g'lpf kxkf wcn'etquulpi u'qh' y cvgtu'qh'j g'Wpkgf "Ucvgu'v"  
 f g'v'gto kpg'y j g'j g't'j g'{"lpf kxkf wcn'{"ucvuh{"j g'v'gto u'cpf "eqpf kkp'u'qh'j g'P Y R."u'cu'y gmi'cu"  
 j g'ewo wvwxg'ghhgewu'ecwugf "d{"cni'qh'j g'etquulpi u'cwj qtk gf "d{"P Y R0'Kic'p'cr r n'ecpv"  
 tgs wguu'c'y c'xgt'qh'j g'522'npgct'hq'v'iko k'qp"ko r cew'v'q'utgco u'qt'qh'cp'qj gty kug"  
 cr r n'ecdr'iko k'cu'r tqxkf gf "hqt'lp" P Y Ru'35."43."4; .58."5; .62."64."65."66."72."73."74."qt'76."  
 j g'f kntlev'gpi kpggt'y kmi'qpn' i' t'cpv'j g'y c'xgt'w'qp" c'y tkwep'f g'v'gto kpcvqp'j cv'j g'P Y R"  
 cevxxk{"y kmi'guwv'lp'qpn' "o kpo cni'lpf kxkf wcn'cpf "ewo wvwxg'cf xgtug'gpxktqpo gpvni'ghhgewu'  
 Hqt'j qug'P Y Ru'j cv'j c'xg" c'y c'xcdrg'522'npgct'hq'v'iko k'hqt'iquu'qh'lpv'gto kwgpv'cpf "  
 gr j go gtcn'utgco "dgf"cpf "c" 3 14/cetg'iko k' "K0'P Y Ru'43."4; .5; .62."64."65."66."72."73."cpf "  
 74+."j g'iquu'qh'lpv'gto kwgpv'cpf "gr j go gtcn'utgco "dgf."r nuu'cp{"qj g't'iquu'qh'lw'kuf k'v'qpcn'  
 y cvgtu'cpf "y g'v'cpf u."ecppqv'gzeggf "3 14/cetg0"

40 Y j gp'o cni'pi "o kpo cni'cf xgtug'gpxktqpo gpvni'ghhgewu'f g'v'gto kpcvqp'u'j g' f kntlev'  
 gpi kpggt'y kmi'eqpukf g't'j g'f k'gev'cpf "lpf k'gev'ghhgewu'ecwugf "d{"j g'P Y R'cevxxk{"0'J g'qt'uj g"  
 y kmi'cuu'eqpukf g't'j g'ewo wvwxg'cf xgtug'gpxktqpo gpvni'ghhgewu'ecwugf "d{"cevxxkku'cwj qtk gf "  
 d{"P Y R'cpf "y j g'j g't'j qug'ewo wvwxg'cf xgtug'gpxktqpo gpvni'ghhgewu'ctg'pq"o qtg'j cp"  
 o kpo cni'Vj g'f kntlev'gpi kpggt'y kmi'cuu'eqpukf g't'ukg'ur gekhe"hecvtu."uwej "cu'j g"  
 gpxktqpo gpvni'ugv'lp'lp'j g'x'lekp'{"qh'j g'P Y R'cevxxk{"."j g'v'r g'qh'tguwteg'j cv'y kmi'dg"  
 chhgev'f "d{"j g'P Y R'cevxxk{"."j g'h'p'v'kp'u'r tqxkf gf "d{"j g'cs wvle" tguwtegu'j cv'y kmi'dg"  
 chhgev'f "d{"j g'P Y R'cevxxk{"."j g'f gi tgg'qt"o ci plwf g'v'j j lej "j g'cs wvle" tguwtegu'r gthqto "  
 j qug'h'p'v'kp'u'j g'gz'v'p'j cv'cs wvle" tguwteg'h'p'v'kp'u'y kmi' dg'iquu'cu'c't'guwv'qh'j g'P Y R"  
 cevxxk{"\*g0 0'r c'v'cn'qt'eqo r ngv'iquu+."j g'f w'cv'kp'qh'j g'cf xgtug'ghhgewu'\*go r qtc{"qt"  
 r gto cpgpv+."j g'ko r q'v'peg'qh'j g'cs wvle" tguwteg'h'p'v'kp'u'v'j g't'gi kqp"\*g0 0'y cvgtu'j gf "qt"  
 geqtgi kqp+."cpf "o kki cvkp"tgs wktgf "d{"j g'f kntlev'gpi kpggt0'Kic'p'cr r tqr t'cv'g'h'p'v'kp'cn'qt"  
 eqpf kkp'cuuguu gpv'o g'j qf "k'c'x'cdrg"cpf "r t'cv'cdrg'v'wug."j cv'cuuguu gpv'o g'j qf "o c{"  
 dg'wugf "d{"j g'f kntlev'gpi kpggt'v'cuukv'lp'j g'o kpo cni'cf xgtug'gpxktqpo gpvni'ghhgewu"  
 f g'v'gto kpcvqp0'Vj g'f kntlev'gpi kpggt"o c{"cf f "ecug'ur gekhe"ur gekn'eqpf kkp'u'v'j g'P Y R"  
 cwj qtk cvkp'v'cf f tguu'ukg/"ur gekhe" gpxktqpo gpvni'eqpegtpu0"

50 Kic'j g'r tqr qugf "cevxxk{"tgs wktgu'c'REP "cpf "y kmi'guwv'lp'c'iquu'qh'i tgcvt'j cp"  
 3 B2/cetg'qh'j g'v'cpf u."j g'r tqr gev'xg'r gto kwgg'uj qwf "u'wdo k'c"o kki cvkp'r tqr qucn'y kj "j g"  
 REP 0'Cr r n'ecpv'u"o c{"cnu'q'r tqr qug'eqo r gpucvt{"o kki cvkp'hqt'P Y R'cevxxkku'y kj "uo cmgt"  
 ko r cew."qt'hqt'ko r cew'v'q'j g't'v'r gu'qh'y cvgtu'\*g0 0'utgco u'0'Vj g'f kntlev'gpi kpggt'y kmi'  
 eqpukf g't'cp{"r tqr qugf "eqo r gpucvt{"o kki cvkp'qt'qj g't"o kki cvkp"o gcuw'gu'j g'cr r n'ecpv'j cu"  
 k'penf gf "lp'j g'r tqr qucn'lp'f g'v'gto k'p'j "y j g'j g't'j g'p'g'cf xgtug'gpxktqpo gpvni'ghhgewu'qh'j g"  
 r tqr qugf "cevxxk{"ctg'pq"o qtg'j cp"o kpo cni'Vj g'eqo r gpucvt{"o kki cvkp'r tqr qucn'o c{"dg"  
 g'kj g't'eqpegr wcn'qt'f g'v'k'gf 0'Kic'j g'f kntlev'gpi kpggt'f g'v'gto kpgu'j cv'j g'cevxxk{"eqo r ngv'y kj "  
 j g'v'gto u'cpf "eqpf kkp'u'qh'j g'P Y R'cpf "j cv'j g'cf xgtug'gpxktqpo gpvni'ghhgewu'ctg'pq"o qtg"  
 j cp"o kpo cni'chgt'eqpukf gtlpi "o kki cvkp."j g'f kntlev'gpi kpggt'y kmi'p'v'kh'j "j g'r gto kwgg'cpf "

lpenmf g'cp { "cevxkv{/ur gekhle" eqpf kkpup'lp'vj g'P Y R'xgtkhlecvkp'vj g'f kntlev'gpi kpggt'f ggo u" pgeguuct { 0Eqpf kkpup'ht"eqo r gpucvqt { "o kki cvkqp'tgs vktgo gpw'o wuv'eqo r n' y kj "vj g" cr r tqr tlcvg'r tqxkukpu'cv55" EHI "5546\*moVj g'f kntlev'gpi kpggt'o wuv'cr r tqxg'vj g'hkpcn' o kki cvkqp'r ncp'dghqtg'vj g" r gto kvgg'eqo o gpegu'y qtnlp'y cvgtu'qh'vj g'Wpkvgf "Ucvgu."wprguu'vj g' f kntlev'gpi kpggt'f gvgto kpgu'vj cv'r tktq'tcr r tqxci'qh'vj g'hkpcn'o kki cvkqp'r ncp'ku'pqv'r tcevkcdng"qt" pqv' pgeguuct { "v'gpuwtg'vko gn' "eqo r ngvkp'qh'vj g'tgs vktgf "eqo r gpucvqt { "o kki cvkqp'0K'vj g" r tqr gevkg'r gto kvgg'grgevu'v'uwo k'c'eqo r gpucvqt { "o kki cvkqp'r ncp'y kj "vj g'REP."vj g'f kntlev' gpi kpggt'y kn'gZR gf kkpawu' t'gxlgy "vj g'r tqr qugf "eqo r gpucvqt { "o kki cvkqp'r ncp'0 Vj g'f kntlev' gpi kpggt'o wuv'tgxlgy "vj g'r tqr qugf "eqo r gpucvqt { "o kki cvkqp'r ncp'y kj kp'67" ecngpf ct'f c { u'qh' tgegkxkpi "c'eqo r ngv'REP"cpf "f gvgto kpg'y j gvj gt'vj g'r tqr qugf "o kki cvkqp'y qwr' "gpuwtg'vj g" P Y R'cevxkv{/tguwu'lp'pq'o qtg'vj cp'o kpo cni'cf xgtug"gpv'ghhgeu'0K'vj g'pgv'cf xgtug" gpv'ghhgeu'qh'vj g'P Y R'cevxkv{/ "chgt" eqpuf gtcvkp'qh'vj g'o kki cvkqp'r tqr qucn'ctg" f gvgto kpgf "d { "vj g'f kntlev'gpi kpggt'v'q'dg'pq" o qtg'vj cp'o kpo cn'vj g'f kntlev'gpi kpggt'y kn' r tqxkf g'c'vko gn' "y tkvgp'tgur qpug'v'q'vj g'cr r nlecp'0Vj g'tgur qpug'y kn'ucv'vj cv'vj g'P Y R'cevxkv{/ "ecp'r tqeggf "wpf gt'vj g'vgo u'cpf "eqpf kkpup'qh'vj g'P Y R."lpenmf kpi "cp { "cevxkv{/ur gekhle" eqpf kkpup'cf f gf "v'q'vj g'P Y R"cwj qtk cvkqp'd { "vj g'f kntlev'gpi kpggt'0

60 K'vj g'f kntlev'gpi kpggt'f gvgto kpgu'vj cv'vj g'cf xgtug"gpv'ghhgeu'qh'vj g" r tqr qugf "cevxkv{/ctg'o qtg'vj cp'o kpo cn'vj gp'vj g'f kntlev'gpi kpggt'y kn'pqv'h' "vj g'cr r nlecp'v' gkj gt'c+vj cv'vj g'cevxkv{/ "f qgu'pqv's wcn'h' "ht "cwj qtk cvkqp'wpf gt'vj g'P Y R" cpf "kpwtv'vj g" cr r nlecp'v'q'vj g'r tqegf vtu'v'q'uggn'cwj qtk cvkqp'wpf gt'cp'lpf kxf wcn'r gto k'c'd+vj cv'vj g' cevxkv{/ "ku'cwj qtk gf "wpf gt'vj g'P Y R'uwldge'v'q'vj g'cr r nlecp'v'u" uwo kulkp'qh'c'o kki cvkqp'r ncp" vj cv'y qwr' "tgf weg'vj g'cf xgtug"gpv'ghhgeu'uq" vj cv'vj g { "ctg'pq'o qtg'vj cp'o kpo cn'qt" \*e+vj cv'vj g'cevxkv{/ "ku'cwj qtk gf "wpf gt'vj g'P Y R" y kj "ur gekhle"o qf khlecvkpu'qt "eqpf kkpup'0 Y j gtg'vj g'f kntlev'gpi kpggt'f gvgto kpgu'vj cv'o kki cvkqp'ku'tgs vktgf "v'gpuwtg'pq'o qtg'vj cp" o kpo cni'cf xgtug"gpv'ghhgeu."vj g" cevxkv{/ "y kn'dg'cwj qtk gf "y kj kp'vj g'67/f c { "REP" r g'kqf "wprguu'cf f kkp'cn'vko g'ku'tgs vktgf "v'eqo r n' y kj "i gp'gt'cn'eqpf kkpup'3: .42."cpf kt'53." qt'v'gxcn'v'g'REP u'ht "cevxkv'gu'cwj qtk gf "d { "P Y Ru'43."6; .cpf '72+ y kj "cevxkv{/ur gekhle" eqpf kkpup'vj cv'ucv'g" vj g'o kki cvkqp'tgs vktgo gpw'0Vj g'cwj qtk cvkqp'y kn'lp'nmf g'vj g'pgeguuct { " eqp'egr wcn'qt" f g'v'kgf "o kki cvkqp'r ncp'qt'c'tgs vktgo gpv'vj cv'vj g'cr r nlecp'v'uwo k'c'o kki cvkqp" r ncp'vj cv' y qwr' "tgf weg'vj g'cf xgtug"gpv'ghhgeu'uq"vj cv'vj g { "ctg'pq'o qtg'vj cp" o kpo cn'0 Y j gp'eqo r gpucvqt { "o kki cvkqp'ku'tgs vktgf .pq'y qtnlp'y cvgtu'qh'vj g'Wpkvgf "Ucvgu" o c { "qeewt'wp'v'vj g'f kntlev'gpi kpggt'j cu'cr r tqxgf "c'ur gekhle"o kki cvkqp'r ncp'qt'j cu'f gvgto kpgf " vj cv'r tktq'tcr r tqxci'qh'c'hkpcn'o kki cvkqp'r ncp'ku'pqv'r tcevkcdng"qt'pqv'pgeguuct { "v'gpuwtg" vko gn' " eqo r ngvkp'qh'vj g'tgs vktgf "eqo r gpucvqt { "o kki cvkqp'0

## FURTHER INFORMATION

30 F kntlev'Gpi kpggtu'j cxg'cwj qtk { "v'f gvgto kpg'kh'cp'cevxkv{/ "eqo r ngu'y kj "vj g" vgo u'cpf "eqpf kkpup'qh'cp'P Y R'0

40 P Y Ru'f q'pqv'qdxlcvg'vj g'pggf "v'q'qdv'kp'qvj gt' hgf gtcn'ucv'g."qt'ncen'r gto ku." cr r tqxcm."qt'cwj qtk cvkqp'u'tgs vktgf "d { "ncy 0

50 P Y Ru'f q'pqv'i tcpv'cp { "r tqr gtv' "tki j u'qt "gzenvukxg'r tkxkngi gu'0

60 P Y Ru'f q'pqv'cwj qtk g'cp { "lplw { "v'q'vj g'r tqr gtv' "qt'tki j u'qh'qvj gtu'0

70 P Y Ru'f q'pqv'cwj qtk g'lv'gthgtpeg'y kj "cp { "gz kunkpi "qt'r tqr qugf "Hgf gtcn' r tq'ge'v'ugg'i gp'gt'cn'eqpf kkpup'53+0

## DEFINITIONS

Dguv'o cpci go gpv'r tcevegu "DO Ru" <Rqrkeku. "r tcevegu. "r tqegf wt gu. "qt "ut wewt gu" ko r ngo gpvgf "vq" o kki cvg "y g" cf xgtug "gpv'kt qpo gpv'n ghgewu" qp "uwt hceg" y cvgt "s wrkv" "t guwv kpi" "htqo "f gxgnr o gpv' DO Ru" ctg "ecvgi qtk gf "cu" ut wewt cnl "qt "pqp/ut wewt cnl"

Ego r gpucvt { "o kki cvkqp" <Vj g't guvqt cvkqp "t g/guvcdrkuj o gpv'qt "tgj cdkkcvkqp+." guvcdrkuj o gpv' "etgcvkqp+." gpj cpego gpv. "cpf kqt "lp" egt vclp "ektewo ucpegu" r tguvtxcvkqp "qh" cs wvle "tguvtegu" hqt "y g" r wtr qugu "qh" qhugv kpi "wpcxqkf cdng" cf xgtug "ko r cew" y j lej "tgo clp "chgt "cm" cr r tqr tkvg "cpf "r tcevecdng" cxqkf cpeg "cpf "o kpo k cvkqp" j cu "dggp" cej kxgf 0

Ewtgpnv "ugt xkegcdng" <Wugcdng "cu" ku" qt "y kj "uqo g" o clpvgpcpeg. "dw" pqv "uq" f gi tcf gf " cu" vq "guugpvkcm" "tgs vkt g't geqp ut wv kqp 0

Fkt gev' ghgewu <Ghgewu "y cv't g' ecwugf "d { "y g' cevxxk" "cpf "qeewt "cv" y g' uco g' vko g' "cpf " r mego 0

Fkuej cti g" <Vj g' vgo "of kuej cti go" o gcpu" cp { "f kuej cti g' qh" f tgf i gf "qt "hmi" o cvgt kni" kpqv" y cvgtu "qh" y g' "Wpkgf "Ucvgu 0

Geqmi kecn' tghgt gpeg" <C" o qf gniwugf "vq" r rcp" cpf "f guki p" cp "cs wvle" j cdkcv" cpf " tkr ctcp "ctgc" tguvqt cvkqp. "gpj cpego gpv. "qt "guvcdrkuj o gpv' cevxxk" "wpf gt "P Y R" 490 "Cp" geqmi kecn' tghgt gpeg" o c { "dg" dcugf "qp" y g' ut wewt g. "hpev kpu. "cpf "f { pco leu "qh" cp "cs wvle" j cdkcv" v' r g' qt "c" tkr ctcp "ctgc" v' r g' y cv'ewt gpnv { "gz kuv" kp "y g' tgi kqp" y j gt g' y g' r tqr qugf "P Y R" 49 "cevxxk" "ku" mcevgf 0 "Cngt pcvxgn" . "cp" geqmi kecn' tghgt gpeg" o c { "dg" dcugf "qp" c "eqpegr wcn" o qf gni hqt "y g" cs wvle" j cdkcv" v' r g' qt "tkr ctcp" ctgc" v' r g' vq "dg" tguvqt gf . "gpj cpegf . "qt "guvcdrkuj gf "cu" c "tguwv" qh" y g' r tqr qugf "P Y R" 49 "cevxxk" 0 "Cp" geqmi kecn' tghgt gpeg "cngu" kpqv "ceeqp v" y g' t cpi g' qh" xctkcvkqp "qh" y g' cs wvle" j cdkcv" v' r g' qt "tkr ctcp" ctgc" v' r g' kp "y g' tgi kqp 0

Gpj cpego gpv' <Vj g' o cplr wv kqp "qh" y g' r j { ulecn "ej go kecn" qt "dkqmi kecn" ej ctcevgt knu "qh" cp "cs wvle" tguvtegu "vq" j gki j vgp. "lpvgpukh" . "qt "ko r tqxg" c "ur gekkle" cs wvle" tguvtegu "hpev kqp" u" 0 "Gpj cpego gpv' tguwv "kp" y g' i clp "qh" ugrgevgf "cs wvle" tguvtegu "hpev kqp" u" . "dw" o c { "cnq" hgc f "vq" c "f genkp g" kp "qvj gt "cs wvle" tguvtegu "hpev kqp" u" 0 "Gpj cpego gpv' f qgu "pqv" tguwv "kp" c "i clp "kp" cs wvle" tguvtegu "ctgc 0

Gr j go gtcn' ut gco <Cp" gr j go gtcn' ut gco "j cu" hmy kpi "y cvgt "qpn" f wtkpi . "cpf "hqt" c" uj qt v' f wtkv kqp "chgt. "r tgekr kcv kqp "gxgpv" kp "c" v' r kecn' { gct 0 "Gr j go gtcn' ut gco "dgf u" ctg "mcevgf " cdqxg" y g' y cvgt "cdng" { gct / tqwpf 0 "I tqwpf y cvgt "ku" pqv c "uqwt eg" qh" y cvgt "hqt" y g' ut gco 0 "Twpqhh" htqo "tclphcniku" y g' r tko ct { "uqwt eg" qh" y cvgt "hqt" ut gco "hmy 0

Guvdrkuj o gpv' "etgcvkqp" <Vj g' o cplr wv kqp "qh" y g' r j { ulecn "ej go kecn" qt "dkqmi kecn" ej ctcevgt knu "u" r tguvkv "vq" f gxgnr "cp" cs wvle" tguvtegu "y cv' f kf "pqv" r tgxkvwu { "gz kuv" cv" cp "wr rcpf " ukgo 0 "Guvdrkuj o gpv' tguwv "kp" c "i clp "kp" cs wvle" tguvtegu "ctgc 0

J ki j "Vkf g" Nkpg" <Vj g' rkp g' qh "kpvtugev kqp" qh" y g' rcpf "y kj "y g' y cvgt u" ut hceg "cv" y g' " o czko wo "j gki j v'tgcej gf "d { "c" tkupi "vkf g 0 "Vj g' j ki j "vkf g" rkp g" o c { "dg" f gvto kpgf . "kp" y g' "cdugpeg" qh' cewcnf cvc. "d { "c" rkp g' qh' qki qt "uwo "cnpi "uj qt g" qdlgevu. "c" o qt g' qt "rguu" eqpv kpvqwu f gr qukv "qh" hkp g' u j gni qt "f gdt ku" qp "y g' hqt guj qt g' qt "dgto . "qvj gt" r j { ulecn "o ctnkpi u" qt "ej ctcevgt knu. " xgi gcv kqp "hkp g. "vkf cnl ci gu. "qt "qvj gt "uvkcdng" o gcpu" y cv' f gnrkp gcvg "y g' i gp gtcn' j gki j v'tgcej gf " d { "c" tkupi "vkf g 0 "Vj g' rkp g" gpego r cuugu "ur tkpi "j ki j "vkf gu" cpf "qvj gt" j ki j "vkf gu" y cv' qeewt "y kj " r gtkqf le "tgs wgpe { "dw" f qgu "pqv" kpenmf g' uqto "uwi gu" kp "y j lej "y g' g' ku" c "f gr ctwt g" htqo "y g" pqto cnl qt "r tgf kev g' f tgej "qh" y g' vkf g' f wg "vq" y g' r kkp i "vr "qh" y cvgt "ci clpuv" c "eqcu" v' d { "ut qpi " y kpf u" uwe j "cu" y qug "ceeqo r cp { kpi "c" j wtkcpg" qt "qvj gt "kpvgpug" uqto 0

J knqtle "Rtqr gt v" <Cp { "r tgi knqtle" qt "j knqtle" f knqtle v' uk g "kpenmf kpi "ctej cgqmi kecn" uk g+ "dwkf kpi . "ut wewt g. "qt "qvj gt "qdlgev kpenmf gf "kp. "qt "grki kdr g' hqt "kpenwukap" kp. "y g' P cvkqpcn

Tgi kngt"qh"J kngtle"Rncgu"o ckvcpkf "d{ "y g"Ugetgvt{ "qh"y g"Kpvtkt0" Vj ku'vgo "kpenf gu" ctvkcw. "tgeqt f u. "cpf "tgo ckpu'y cv'tg'tgrcvf "vq"cpf "qecvfg "y kj kp'uwej "r tqr gt vku0" Vj g'vgo " kpenf gu'r tqr gt vku'qh'tcf kkpncn'trki kwu'cpf "ewwtcn'ko r qtcpeg"vq"cp"Kpf kcp'vtdg"qt"P cvkg" J cy ckcp"qti cpl cvkp"cpf "y cv'o ggv'y g"P cvkpcn" Tgi kngt"etkgtk"58"EHT"r ctv82-0

Kpf gr gpf gpv'wkv <C"vuv'vq" f gvgto kpg'y j cv'eqpukwgu'c'ukpi ng'cpf "eqo r ngv" pqp/ rkpct"r tqlgev'kp"y g'Eqr u" Tgi wrcvt { "Rtqi tco 0C"r tqlgev'ku'eqpukf gtgf "vq"j cxg" kpf gr gpf gpv' wkv { "kh'k'y qwf "dg"eqputwvfg "cdugpv'y g'eqputwvqp"qh'qy gt"r tqlgeu'kp"y g'r tqlgev'ctgc0' Rqt vqpu'qh'c"o wkv r j cug'r tqlgev'y cv'f gr gpf "wr qp"qy gt"r j cugu'qh'y g"r tqlgev'f q'pqv'y cxg" kpf gr gpf gpv'wkv { 0Rj cugu'qh'c"r tqlgev'y cv'y qwf "dg"eqputwvfg "gxgp"kh'y g'qy gt"r j cugu'y gtg" pqv'dwkv'ecp"dg"eqpukf gtgf "cu'ugr ctcv'ukpi ng'cpf "eqo r ngv"r tqlgeu'y kj "kpf gr gpf gpv'wkv { 0' "

Kpf k gev'ghgeu <Ghgeu"y cv'tg'ecwuf "d{ "y g"cevkxk { "cpf "ctg'rcvg"kp"ko g'qt" hcty gt" tgo qxgf "kp" f kncpeg. "dw'ctg"ukn'tgcuqpcdn { "hqt guggcdrg0'

Kpvgto kwgpv'utgco <Cp'kpvgto kwgpv'utgco "j cu'hmy kpi "y cvgt" f wtkpi "egtckp"ko gu" qh' yj g" { gct. "y j gp"i tqwpf y cvgt"r tqxf gu'y cvgt" hqt"utgco "hmy 0F wtkpi "f t { "r gkqf u. "kpvgto kwgpv' utgco u'o c { "pqv'y cxg" hmy kpi "y cvgt0T wpqhi'itqo "tckphcniku"c"uwr r ngo gpvcn" uqwtg"qh'y cvgt" hqt" utgco "hmy 0'

Nquu'qh'y cvgtu'qh'y g'Wpkgf "Ucvgu <Y cvgtu'qh'y g'Wpkgf "Ucvgu"y cv'tg"r gto cpgpv { " cf xgtugn { "chgevg" d { "hknpi . "hmy kpi . "gzeccvqp. "qt" f tckpi g'dgecvug"qh" y g'tgi wrcvg "cevkxk { 0' Rgto cpgpv'cf xgtug"ghgeu" kpenf g'r gto cpgpv'f kcj cti gu'qh" f tgf i gf "qt" hkn'o cvgtkcn'y cv'ej cpi g" cp"cs wvle"ctgc"vq" f t { "rcpf . "kpetgcug"y g'dqwo "grxcvqp"qh'c"y cvgt dqf { . "qt"ej cpi g'y g'wug"qh'c" y cvgt dqf { 0Vj g'cetgci g'qh'hqu'qh'y cvgtu'qh'y g'Wpkgf "Ucvgu"ku"c"y tguj qrf "o gcuwtgo gpv'qh'y g" ko r cev'vq"lwkvf kcvkpcn'y cvgtu'hqt" f gvgto kkpki "y j gvj gt" c"r tqlgev'o c { "s wcrkh { "hqt"cp" P Y R=k'ku" pqv'c"pgv'y tguj qrf "y cv'ku"ecrewrcvg "chgt"eqpukf gtpi "eqo r gpucvt { "o kki cvkp"y cv'o c { "dg'wugf " vq"qh'ugv'huugu'qh" cs wvle "hpevqpu"cpf "ugt xlegu0Vj g'hqu'qh'utgco "dgf "kpenf gu'y g'cetgu"qt" rkpct"ggv'qh'utgco "dgf "y cv'tg'hknf "qt" gzeccvfg "cu"c'tguwn'qh'y g'tgi wrcvg "cevkxk { 0Y cvgtu" qh'y g" Wpkgf "Ucvgu"vgo r qtctkn { "hknf . "hmy gf . "gzeccvfg . "qt" f tckpgf . "dw'tguwgtgf "vq"r tg/" eqputwvqp"eqpvwtu"cpf "grxcvqp"chgt"eqputwvqp. "ctg"pqv'kpenf gf "kp"y g"o gcuwtgo gpv'qh' quu'qh'y cvgtu'qh'y g'Wpkgf "Ucvgu0K r ceu'tguwnkpi "itqo "cevkxkku'y cv'f q'pqv'tgs vktg" Fgr ctvo gpv'qh'y g'Cto { "cwj qtk cvkp. "uwej "cu'cevkxkku'grki kdrghqt" gzgo r vqpu'wpf gt"ugevqp" 626"hn'qh'y g'Engcp"Y cvgt"Cev"ctg"pqv'eqpukf gtgf "y j gp"ecrewrcvpi "y g'hquu'qh'y cvgtu'qh'y g" Wpkgf "Ucvgu0'

Pcxki cdrng'y cvgtu <Y cvgtu'wdlgev'vq"ugevqp"32"qh'y g'Tkxgtu"cpf "J ctdqtu"Cev'qh" 3: ; ; 0' Vj gug'y cvgtu'ctg" f ghkpf "cv55"EHT"r ctv54; 0'

Pqp/wf cn'y gvrpf <C"pqp/wf cn'y gvrpf "ku"c"y gvrpf "y cv'ku'pqv'wdlgev'vq"y g'gdd"cpf " hmy "qh'wf cn'y cvgtu0P qp/wf cn'y gvrpf u'eqvki wqwu'vq"wf cn'y cvgtu'ctg"qecvfg "rcpf y ctf "qh'y g" j ki j "wf g'hpg"0Q0"ur tkpi "j ki j "wf g'hpg-0'

Qr gp'y cvgt <Hqt"r wtr ugu'qh'y g"P Y Ru. "cp"qr gp"y cvgt"ku'cp { "ctgc"y cv'lp"c" { gct"y kj " pqto cn'r cvgtpu'qh'r tgekr kcvqp"j cu'y cvgt" hmy kpi "qt"ucpf kpi "cdqyg'i tqwpf "vq"y g"gzvgpv'y cv" cp"qtf kpc { "j ki j "y cvgt"o ctm'ecp"dg" f gvgto kpgf 0Cs wvle"xgi gcvqp"y kj kp"y g"ctgc"qh'hmy kpi " qt"ucpf kpi "y cvgt"ku'gkj gt"pqp/go gti gpv."ur ctug. "qt"cdugp0Xgi gcvfg "uj cmqy u'ctg'eqpukf gtgf " vq"dg"qr gp"y cvgtu0Gzco r ngu'qh'odr gp"y cvgtu0'kpenf g'tkxgtu. "utgco u. "rcngu. "cpf "r qpf u0'

Qtf kpc { "J ki j "Y cvgt"O ctm <Cp"qtf kpc { "j ki j "y cvgt"o ctm'ku"c"rpg"qp"y g'uj qtg" gucdrkuj gf "d { "y g'hnewcvqp"qh'y cvgt"cpf "kpf kcvfg "d { "r j { ukecn'ej ctcevgtkne. "qt"d { "qy gt" cr r tqr tkvg'o gcpu'y cv'eqpukf gt"y g'ej ctcevgtkne"qh'y g'uwttqwpf kpi "ctgcu0'

Rgtgpkn'utgco <C"r gtgpkn'utgco "j cu'hmy kpi "y cvgt" { gct/tqwpf "f wtkpi "c"v'r kcn' { gct0Vj g'y cvgt"vdrng'ku'qecvfg "cdqyg"y g'utgco "dgf "hqt"o quv'qh'y g" { gct0I tqwpf y cvgt"ku'y g"

primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine- marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water

surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.



## **FINAL 2017 REGIONAL CONDITIONS**

### ***NOTICE ABOUT WEB LINKS IN THIS DOCUMENT:***

*The web links (both internal to our Wilmington District and any external links to collaborating agencies) in this document are valid at the time of publication. However, the Wilmington District Regulatory Program web page addresses, as with other agency web sites, may change over the timeframe of the five-year Nationwide Permit renewal cycle, in response to policy mandates or technology advances. While we will make every effort to check on the integrity of our web links and provide re-direct pages whenever possible, we ask that you report any broken links to us so we can keep the page information current and usable. We apologize in advanced for any broken links that you may encounter, and we ask that you navigate from the Regulatory home page (Regulatory Permit Program Wetlands and Streams) of the Wilmington District Corps of Engineers, to the “Permits” section of our web site to find links for pages that cannot be found by clicking directly on the listed web link in this document.*

### **Final 2017 Regional Conditions for Nationwide Permits (NWP) in the Wilmington District**

#### **1.0 Excluded Waters**

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

##### **1.1 Anadromous Fish Spawning Areas**

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from the Corps and either NCDMF or NCWRC.

##### **1.2 Trout Waters Moratorium**

Waters of the United States in the designated trout watersheds of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC, or from the Eastern Band of Cherokee Indians (EBCI) Fisheries and Wildlife Management (FWM) office if the project is located on EBCI trust land. (See Section 2.7 for information on the designated trout watersheds).

##### **1.3 Sturgeon Spawning Areas as Designated by the National Marine Fisheries Service (NMFS)**

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the NMFS.

## **2.0 Waters Requiring Additional Notification**

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWPs. These waters are:

### **2.1 Western NC Counties that Drain to Designated Critical Habitat**

For proposed activities within waters of the United States that require a Pre-Construction Notification (PCN) and are located in the sixteen counties listed below, permittees must provide a copy of the PCN to the U.S. Fish and Wildlife Service (USFWS), 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the U.S. Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific notification requirements related to the Endangered Species Act and the below website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville U.S. Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for permittees which provides guidelines on how to review linked websites and maps in order to fulfill NWP General Condition 18 requirements:

<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/AgencyCoordination/ESA.asp>

Permittees who do not have internet access may contact the appropriate U.S. Fish and Wildlife Service offices listed below or Corps at (910) 251-4633:

Asheville U.S. Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsythe and Stokes Counties.

U.S. Fish and Wildlife Service  
Asheville Field Office  
160 Zillicoa Street  
Asheville, NC 28801  
Telephone: (828) 258-3939

Raleigh U.S. Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

U.S. Fish and Wildlife Service  
Raleigh Field Office  
Post Office Box 33726

Raleigh, NC 27636-3726  
Telephone: (919) 856-4520

## **2.2 Special Designation Waters**

Prior to the use of any NWP, except NWP 3, that involves a discharge of dredged or fill material in any of the following identified waters and/or adjacent wetlands in North Carolina, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The North Carolina waters and wetlands that require additional notification requirements are:

“Outstanding Resource Waters” (ORW) or “High Quality Waters” (HQW) as designated by the North Carolina Environmental Management Commission; “Primary Nursery Areas” (PNA), including inland PNA, as designated by the North Carolina Marine Fisheries Commission and the NCWRC; or wetlands adjacent to these waters. Definitions of ORW, HQW and PNA waters can be found in the North Carolina State Administrative Code, Title 15A, Subchapters 2B and 10C (15A NCAC 02B, 15A NCAC 10C) and at the following World Wide Web page:

<http://reports.oah.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality&lookUpError=15A%20NCAC%20000%20>. Surface water classifications for waters in North Carolina can be viewed at the North Carolina Division of Water Resources website or at the following World Wide Web Page:

<https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/classifications>

Permittees who do not have internet access may contact the Corps at (910) 251- 4633.

## **2.3 Coastal Area Management Act (CAMA) Areas of Environmental Concern**

Non-federal permittees for any NWP in a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) must also obtain the required CAMA permit. Development activities for non-federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403, (910) 251-4802 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889, (910) 251-4610).

## **2.4 Barrier Islands**

Prior to the use of any NWP on a barrier island of North Carolina, permittees must submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

## **2.5 Mountain or Piedmont Bogs**

Prior to the use of any NWP in a Bog, as classified by the North Carolina Wetland Assessment Methodology (NCWAM), permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The latest version of NCWAM can be

viewed on the Corps RIBITS (Regulatory In-lieu Fee and Bank Information Tracking System) website or at the following World Wide Web Page:

[https://ribits.usace.army.mil/ribits\\_apex/f?p=107:27:0::NO::](https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::)

## 2.6 Animal Waste Facilities

Prior to use of any NWP for construction of animal waste facilities in waters of the United States, including wetlands, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

## 2.7 Trout Waters

Prior to any discharge of dredge or fill material into streams, waterbodies or wetlands within the 294 designated trout watersheds of North Carolina, the permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity, unless other thresholds are established in the Regional Conditions in Section 4 (Additional Regional Conditions for Specific Nationwide Permits). The permittee shall also provide a copy of the notification to the appropriate NCWRC office, or to the EBCI FWM Office (if the project is located on EBCI trust land), to facilitate the determination of any potential impacts to designated Trout Waters.

Notification to the Corps will include a statement with the name of the NCWRC or EBCI FWM biologist contacted, the date of the notification, the location of work, a delineation of wetlands and waters, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and, if applicable, a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Watersheds:

<b>NCWRC Contact**</b>	<b>Counties that are entirely within Trout Watersheds*</b>	<b>Counties that are partially within Trout Watersheds*</b>
Mountain Coordinator Balsam Depot 20830 Great Smoky Mountain Expressway Waynesville, NC 28786 Telephone: (828) 558-6011  For NCDOT Projects:  NCDOT Coordinator 206 Charter. Street Albemarle, NC 28001 Telephone: (704) 982-9181	Alleghany    Jackson Ashe         Macon Avery         Swain Graham       Transylvania Haywood      Watauga	Burke         McDowell Buncombe    Mitchell Caldwell      Polk Cherokee     Rutherford Clay           Surry Henderson   Wilkes Madison       Yancey

\*NOTE: To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for each County at the following World Wide Web page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout/>.

\*\*If a project is located on EBCI trust land, submit the PCN in accordance with Section 3.14. Contact the Corps Asheville Regulatory Field Office at (828) 271-7980 with questions.

## **2.8 Western NC Waters and Corridors**

The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity in waters of the United States if the activity will occur within any of the following identified waters in western North Carolina, within 0.5 mile on either side of these waters, or within 0.75 mile of the Little Tennessee River, as measured from the top of the bank of the respective water (i.e., river, stream, or creek):

Brasstown Creek  
Burningtown Creek  
Cane River  
Caney Fork  
Cartoogechaye Creek  
Chattooga River  
Cheoah River  
Cowee Creek  
Cullasaja River  
Deep Creek  
Ellijay Creek  
French Broad River  
Garden Creek  
Hiwassee River  
Hominy Creek  
Iotla Creek  
Little Tennessee River (within the river or within 0.75 mile on either side of this river)  
Nantahala River  
Nolichucky River  
North Fork French Broad River  
North Toe River  
Nottley River  
Oconaluftee River (portion not located on trust/EBCI land)  
Peachtree Creek  
Shooting Creek  
Snowbird Creek  
South Toe River  
Stecoah Creek  
Swannanoa River  
Sweetwater Creek

Tuckasegee River (also spelled Tuckaseegee or Tuckaseigee)  
Valley River  
Watauga Creek  
Watauga River  
Wayah Creek  
West Fork French Broad River

To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for all corridors at the following World Wide Web page:  
<http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Designated-Special-Waters.aspx>

### **3.0 List of Corps Regional Conditions for All Nationwide Permits**

The following conditions apply to all Nationwide Permits in the Wilmington District:

#### **3.1 Limitation of Loss of Stream Bed**

NWPs may not be used for activities that may result in the loss or degradation of more than 300 total linear feet of stream bed, unless the District Engineer has waived the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis and has determined that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing and documented by appropriate/accepted stream quality assessments\*. This waiver only applies to the 300 linear feet threshold for NWPs.

This Regional Condition does not apply to NWP 23 (Approved Categorical Exclusions).

\*NOTE: Permittees should utilize the most current methodology prescribed by Wilmington District to assess stream function and quality. Information can be found at:  
[https://ribits.usace.army.mil/ribits\\_apex/f?p=107:27:0::NO::](https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::)

#### **3.2 Mitigation for Loss of Stream Bed**

For any NWP that results in a loss of more than 150 linear feet of stream, the permittee shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment. For stream losses of 150 linear feet or less that require a PCN, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

#### **3.3 Pre-construction Notification for Loss of Streambed Exceeding 150 Feet**

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream, intermittent or ephemeral stream, the permittee shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). This applies to

NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

### **3.4 Restriction on Use of Live Concrete**

For all NWPs which allow the use of concrete as a building material, live or fresh concrete, including bags of uncured concrete, may not come into contact with the water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to waters of the United States after the concrete is set and cured and when it no longer poses a threat to aquatic organisms.

### **3.5 Requirements for Using Riprap for Bank Stabilization**

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

**3.5.1.** Where bank stabilization is conducted as part of an activity, natural design, bioengineering and/or geoengineering methods that incorporate natural durable materials, native seed mixes, and native plants and shrubs are to be utilized to the maximum extent practicable.

**3.5.2.** Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters. The placement of filter fabric is not required if the riprap will be pushed or “keyed” into the bank of the waterbody. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional Condition would result in greater adverse impacts to the aquatic environment.

**3.5.3.** The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

**3.5.4.** The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

**3.5.5.** It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

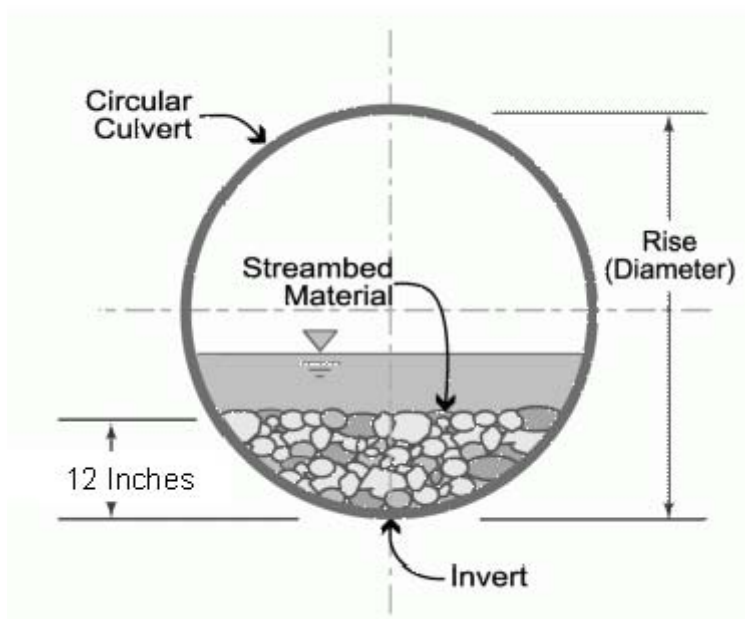
**3.5.6.** The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

### **3.6 Requirements for Culvert Placement**

**3.6.1** For all NWPs that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by altering the width or depth of the stream profile in connection with the construction activity. The width, height, and gradient of a proposed culvert should be

sufficient to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow is the seasonal sustained high flow that typically occurs in the spring. Spring flows should be determined from gage data, if available. In the absence of such data, bank-full flow can be used as a comparable indicator.

In Public Trust Areas of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by the Coastal Area Management Act (CAMA): All pipes/culverts must be sufficiently sized to allow for the burial of the bottom of the culvert at least one foot below normal bed elevation.



In all other areas: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried to maintain aquatic passage and to maintain passage during drought or low flow conditions, and every effort shall be made to maintain the existing channel slope.

Culverts must be designed and constructed in a manner that minimizes destabilization and head cutting. Destabilizing the channel and head cutting upstream should be considered and appropriate actions incorporated in the design and placement of the culvert.

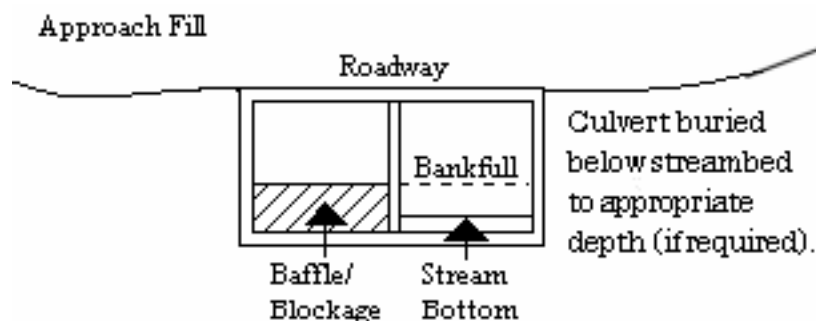
A waiver from the depth specifications in this condition may be requested, in writing, by the permittee and issued by the Corp; this request must be specific as to the reasons(s) for the request. The waiver will be issued if it can be demonstrated that the proposed design would result in less impacts to the aquatic environment.

All counties: Culverts placed within riparian and/or riverine wetlands must be installed in a manner that does not restrict the flow and circulation patterns of waters of the United States.



Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

**3.6.2** Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts or culvert barrels at such crossings shall be allowed only to receive bank-full flows.



**3.6.3** Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation. Additional culverts or culvert barrels at such crossings should not be buried, or if buried, must have sills at the inlets to ensure that they only receive flows exceeding bank-full.

**3.6.4** Excavation of existing stream channels shall be limited to the minimum necessary to construct or install the proposed culvert. The final width of the impacted stream at the culvert inlet and outlet should be no greater than the original stream width. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if the proposed design would result in less impacts to the aquatic environment and/or if it can be demonstrated that it is not practicable to restore the final width of the impacted stream at the culvert inlet and outlet to the width of the original stream channel.

**3.6.5** The width of the culvert shall be comparable to the width of the stream channel. If the width of the culvert is wider than the stream channel, the culvert shall include baffles, benches and/or sills to maintain the width of the stream channel. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if it can be demonstrated that it is not practicable or necessary to include baffles, benches or sills and the design would result in less impacts to the aquatic environment.

### **3.7 Notification to NCDEQ Shellfish Sanitation Section**

Permittees shall notify the NCDEQ Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand

should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued by the permittee.

### **3.8 Submerged Aquatic Vegetation**

Impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP, except NWP 48, unless EFH Consultation has been completed pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). Permittees shall submit a PCN (See NWP General Condition 32) to the District Engineer prior to commencing the activity if the project would affect SAV. The permittee may not begin work until notified by the Corps that the requirements of the Magnuson-Stevens Act have been satisfied and that the activity is authorized.

### **3.9 Sedimentation and Erosion Control Structures and Measures**

All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the United States. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

### **3.10 Restoration of Temporary Impacts to Stream Beds**

Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material such that the impacted stream reach mimics the adjacent upstream and downstream reach. The impacted area shall be backfilled with natural streambed material to a depth of at least 12 inches or to the bottom depth of the impacted area if shallower than 12 inches. An engineered in-stream structure or material can be used to provide protection of a buried structure if it provides benefits to the aquatic environment and can be accomplished by a natural streambed design. A permittee may request a waiver of this condition if it is determined a buried structure needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

### **3.11 Restoration of Temporary Impacts to Stream Banks**

Upon completion of work involving temporary stream bank impacts, stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable. Natural durable materials, native seed mixes, and native plants and shrubs are to be utilized in the restoration. Natural designs which use bioengineered and/or geo-engineered methods are to be applied. An engineered structure or material can be used to provide protection of a buried structure if it provides benefits to the stream bank environment, provided it is not in excess of the minimum amount needed for protection and does not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark. A permittee may request a waiver of this condition if it is determined a buried structure

needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

### **3.12 Federal Navigation Channel Setbacks and Corps Easements**

**3.12.1** Authorized structures and fills located in or adjacent to Federally authorized waterways will be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at <http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx>. This general permit does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to the construction of any structures or fills within the Federally Authorized Channel Setback.

**3.12.2** The permittee shall obtain a Consent to Cross Government Easement from the Wilmington District's Land Use Coordinator prior to any crossing of the Corps easement and/or prior to commencing construction of any structures, authorized dredging or other work within the right-of-way of, or in proximity to, a federally designated disposal area. The Land Use Coordinator may be contacted at: CESA-W-OP-N, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343, email: [SAWWeb-NAV@usace.army.mil](mailto:SAWWeb-NAV@usace.army.mil)

### **3.13 Northern Long-eared Bat – Endangered Species Act Compliance**

The Wilmington District, U.S. Army Corps of Engineers has consulted with the United States Fish and Wildlife Service (USFWS) in regards to the threatened Northern long-eared bat (NLEB) (*Myotis septentrionalis*) and Standard Local Operating Procedures for Endangered Species (SLOPES) have been approved by the Corps and the USFWS. This condition concerns effects to the NLEB only and does not address effects to other federally listed species and/or federally designated critical habitat.

A. Procedures when the Corps is the lead federal\* agency for a project:

The permittee must comply with (1) and (2) below when:

- the project is located in the western 41 counties of North Carolina, to include non-federal aid North Carolina Department of Transportation (NCDOT) projects, OR;
- the project is located in the 59 eastern counties of North Carolina, and is a non-NCDOT project.

\*Generally, if a project is located on private property or on non-federal land, and the project is not being funded by a federal entity, the Corps will be the lead federal agency due to the requirement to obtain Department of the Army authorization to impact waters of the United States. If the project is located on federal land, contact the Corps to determine the lead federal agency.

(1) A permittee using a NWP must check to see if their project is located in the range of the NLEB by using the following website:

<http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>. If the project is within the range of the NLEB, or if the project includes percussive activities (e.g., blasting, pile driving, etc.), the permittee is then required to check the appropriate website in the paragraph below to discover if their project:

- is located in a 12-digit Hydrologic Unit Code area (“red HUC” - shown as red areas on the map), AND/OR;
- involves percussive activities within 0.25 mile of a red HUC.

Red HUC maps - for the western 41 counties in NC (covered by the Asheville Ecological Services Field Office), check the project location against the electronic maps found at: [http://www.fws.gov/asheville/htmls/project\\_review/NLEB\\_in\\_WNC.html](http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html). For the eastern 59 counties in NC (covered by the Raleigh Ecological Services Field Office), check the project location against the electronic maps found at:

[https://www.fws.gov/raleigh/NLEB\\_RFO.html](https://www.fws.gov/raleigh/NLEB_RFO.html).

(2) A permittee must submit a PCN to the District Engineer, and receive written authorization from the District Engineer, prior to commencing the activity, if the activity will involve any of the following:

- tree clearing/removal, construction/installation of wind turbines in a red HUC, AND/OR;
- bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, (applies anywhere in the range of the NLEB), AND/OR;
- percussive activities in a red HUC, or within 0.25 mile of a red HUC.

The permittee may proceed with the activity without submitting a PCN to either the Corps or the USFWS, provided the activity complies with all applicable NWP terms and general and regional conditions, if the permittee’s review under A.(1) and A.(2) above shows that the project is:

- located outside of a red HUC (and there are no percussive activities), and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;
- located outside of a red HUC and there are percussive activities, but the percussive activities will not occur within 0.25-mile of a red HUC boundary, and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;

- located in a red HUC, but the activity will NOT include: tree clearing/removal; construction/installation of wind turbines; bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, and/or; any percussive activities.

#### B. Procedures when the USACE is not the lead federal agency:

For projects where another federal agency is the lead federal agency - if that other federal agency has completed project-specific ESA Section 7(a)(2) consultation for the NLEB, and has (1) determined that the project would not cause prohibited incidental take of the NLEB, and (2) completed coordination/consultation that is required by the USFWS (per the directions on the respective USFWS office's website), that project may proceed without notification to either the USACE or the USFWS, provided all General and Regional Permit Conditions are met.

The NLEB SLOPES can be viewed on the USACE website at the following World Wide Web Page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>. Permittees who do not have internet access may contact the USACE at (910) 251- 4633.

### **3.14 Work on Eastern Band of Cherokee Indians Land**

All PCNs submitted for activities in waters of the United States on Eastern Band of Cherokee Indians (EBCI) trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land), must comply with the requirements of the latest MOU between the Wilmington District and the Eastern Band of Cherokee Indians.

## **4.0 Additional Regional Conditions for Specific Nationwide Permits**

### **4.1 NWP #3 – Maintenance**

**4.1.1** In designated trout watersheds, a PCN is not required for impacts to a maximum of 75 linear feet (150 linear feet for temporary dewatering) of streams and waterbodies when conducting maintenance activities. Minor deviations in an existing structure's configuration, temporary structures and temporary fills are authorized as part of the maintenance activity. In designated trout watersheds, the permittee shall submit a PCN (see Regional Condition 2.7 and General Condition 32) to the District Engineer prior to commencing the activity if; 1) impacts (other than temporary dewatering to work in dry conditions) to streams or waterbodies exceed 75 linear feet; 2) temporary impacts to streams or waterbodies associated with dewatering to work in dry conditions exceeds 150 linear feet; 3) the project will involve impacts to wetlands; 4) the project involves the replacement of a bridge or spanning structure with a culvert or non-spanning structure in waters of the United States; or 5) the activity will be constructed during the trout waters moratorium (October 15 through April 15).

**4.1.2** The permittee shall submit a PCN (see NWP General Condition 32) to the District Engineer prior to commencing the activity if the activity involves repair, rehabilitation or replacement of impounding structures or parts of impounding structures or fills.

**4.1.3** The permittee shall submit a PCN to the District Engineer prior to commencing the activity if the activity will involve the discharge of dredged or fill material into more than 1/10-acre of wetlands or 150 linear feet of stream channel for the construction of temporary access fills and/or temporary road crossings. The PCN must include a restoration plan that thoroughly describes how all temporary fills will be removed, how pre-project conditions will be restored, and include a timetable for all restoration activities.





ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Interim Director*

February 6, 2018  
Edgecombe County  
NCDWR Project No. 20180162  
Bridge 67 on SR 1109  
State Project No. 17BP.4.R.78

**APPROVAL of 401 WATER QUALITY CERTIFICATION and TAR-PAMLICO BUFFER  
AUTHORIZATION, with ADDITIONAL CONDITIONS**

Mr. Ronnie Keeter, P.E., Division Engineer  
NCDOT, Division 4  
PO Box 3165  
Wilson, NC 27895-3165

Dear Mr. Keeter:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge 67 in Edgecombe County:

**Stream Impacts in the Tar-Pamlico River Basin**

Site	Permanent Impact to Perennial Stream (linear ft)	Temporary Impact to Perennial Stream (linear ft)	Total Stream Impact (linear ft)
Total	14	19	33

**Total Stream Impact for Project: 33 linear feet.**

**Wetland Impacts in the Tar-Pamlico River Basin**

Site	Permanent Fill (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)
Total	0.01	0.04	0.05

**Total Wetland Impact for Project: 0.05 acres.**

**Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
Totals	1951	N/A	675	N/A

\* n/a = Total for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

**Total Buffer Impact for Project: 2625 square feet.**

The project shall be constructed in accordance with your application received February 2, 2018. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 4132. This certification corresponds to the Nationwide Permit 3 issued by the Corps of Engineers. This approval is also valid for the Tar-Pamlico Riparian Buffer Rules (15A NCAC 2B.0259). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0259. For this approval to remain valid, you must adhere to the conditions listed in the General Certification and any additional conditions listed below.

#### **Conditions of Certification:**

1. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
2. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
3. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250 =, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
4. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]
5. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]
6. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
7. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water. [15A NCAC 02H .0506(b)(3)]
8. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 2B.0259]
9. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 2B.0259]
10. Pursuant to 15A NCAC 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.



11. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
12. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
13. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
14. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
15. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
16. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
17. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
18. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
19. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
20. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
21. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
22. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
23. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
24. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
25. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
26. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

27. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer (or whomever is the authorized agent if a non-NCDOT project) shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

28. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0259(10)] or [15A NCAC 02B.0506(b)(2)]

29. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]

30. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

31. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:


Office of Administrative Hearings  
6714 Mail Service Center  
Raleigh, NC 27699-6714  
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Sam M. Hayes, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact Rob Ridings at 919-707-8786.

Sincerely,

  
for Linda Culpepper, Interim Director  
Division of Water Resources

Electronic copy only distribution:

Tom Steffens, US Army Corps of Engineers, Washington Field Office  
Chad Coggins, Division 4 Environmental  
File Copy



ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Interim Director*

NCDWR Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

#### **Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, **or** the project engineer. It is not necessary to send certificates from all of these.

#### ***Applicant's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### ***Agent's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### ***Engineer's Certification***

\_\_\_\_\_ Partial / \_\_\_\_\_ Final

I, \_\_\_\_\_, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_

**STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER RESOURCES**

**WATER QUALITY GENERAL CERTIFICATION NO. 4132**

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS**

- **NATIONWIDE PERMIT 3 (MAINTENANCE),**
- **NATIONWIDE PERMIT 4 (FISH AND WILDLIFE HARVESTING, ENHANCEMENT, AND ATTRACTION DEVICES AND ACTIVITIES),**
- **NATIONWIDE PERMIT 5 (SCIENTIFIC MEASUREMENT DEVICES),**
- **NATIONWIDE PERMIT 6 (SURVEY ACTIVITIES),**
- **NATIONWIDE PERMIT 7 (OUTFALL STRUCTURES AND ASSOCIATED INTAKE STRUCTURES),**
- **NATIONWIDE PERMIT 19 (MINOR DREDGING),**
- **NATIONWIDE PERMIT 20 (RESPONSE OPERATIONS FOR OIL OR HAZARDOUS SUBSTANCES),**
- **NATIONWIDE PERMIT 22 (REMOVAL OF VESSELS),**
- **NATIONWIDE PERMIT 25 (STRUCTURAL DISCHARGES),**
- **NATIONWIDE PERMIT 30 (MOIST SOIL MANAGEMENT FOR WILDLIFE),**
- **NATIONWIDE PERMIT 32 (COMPLETED ENFORCEMENT ACTIONS),**
- **NATIONWIDE PERMIT 36 (BOAT RAMPS),**
- **REGIONAL GENERAL PERMIT 197800056 (PIERS, DOCKS AND BOATHOUSES), AND**
- **REGIONAL GENERAL PERMIT 197800125 (BOAT RAMPS)**

Water Quality Certification Number 4132 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (3, 4, 5, 6, 7, 19, 20, 22, 25, 30, 32, and 36) of the US Army Corps of Engineers regulations and Regional General Permits 197800056 and 197800125.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017  
Signed this day: December 1, 2017

By

A handwritten signature in black ink, appearing to read 'Linda Culpepper', is written over a horizontal line.

*for* Linda Culpepper  
Interim Director



**Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Resources (DWR):**

- a) If any of the conditions of this Certification (listed below) cannot be met; or
- b) Total additional permanent impacts to streams (including stream relocations or restorations) greater than 40 linear feet at an existing stream impact location; or
- c) Total temporary and permanent impacts to wetlands or open waters equal to or greater than one-tenth (1/10) of an acre; or
- d) Complete dewatering and drawdowns to a sediment layer related to pond/dam maintenance or removal; or
- e) Any impacts to streams from excavation or dredging other than excavation that is conducted as preparation for installing permanent fill or structures or projects qualifying for a Nationwide Permit 19; or
- f) Except for projects qualifying for a Nationwide permit 3, any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
- g) Any high-density project, as defined in 15A NCAC 02H .1003(2)(a) and by the density thresholds specified in 15A NCAC 02H .1017, which:
  - i. Disturbs one acre or more of land (including a project that disturbs less than one acre of land that is part of a larger common plan of development or sale); and
  - ii. Has permanent wetland, stream or open water impacts; and
  - iii. Is proposing new built-upon area; and
  - iv. Does not have a stormwater management plan reviewed and approved under a state stormwater program<sup>1</sup> or a state-approved local government stormwater program<sup>2</sup>.

Projects that have vested rights, exemptions, or grandfathering from state or locally-implemented stormwater programs and projects that satisfy state or locally-implemented stormwater programs through use of community in-lieu programs **require written approval**; or

- h) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
- i) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
- j) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless*:

<sup>1</sup> e.g. Coastal Counties, HQW, ORW, or state-implemented Phase II NPDES

<sup>2</sup> e.g. Delegated Phase II NPDES, Water Supply Watershed, Nutrient-Sensitive Waters, or Universal Stormwater Management Program

## GC4132

- i. The activities are listed as “EXEMPT” from these rules; or
- ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
- iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

**Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval.**

### **I. ACTIVITY SPECIFIC CONDITIONS:**

1. For all dam removal projects meeting the definition under G.S. 143-215.25 and requirements under G.S. 143-215.27 of a professionally supervised dam removal, the applicant shall provide documentation that any sediment that may be released has similar or lower level of contamination than sediment sampled from downstream of the dam in accordance with Session Law 2017-145.
2. For the North Carolina Department of Transportation, compliance with the NCDOT’s individual NPDES permit NCS000250 shall serve to satisfy this condition. All other high-density projects that trigger threshold item (g) above shall comply with one of the following requirements: [15A NCAC 02H .0506(b)(5) and (c)(5)]
  - a. Provide a completed Stormwater Management Plan (SMP) for review and approval, including all appropriate stormwater control measure (SCM) supplemental forms and associated items, that complies with the high-density development requirements of 15A NCAC 02H .1003. Stormwater management shall be provided throughout the entire project area in accordance with 15A NCAC 02H .1003. For the purposes of 15A NCAC 02H .1003(2)(a), density thresholds shall be determined in accordance with 15A NCAC 02H .1017.
  - b. Provide documentation (including calculations, photos, etc.) that the project will not cause degradation of downstream surface waters. Documentation shall include a detailed analysis of the hydrological impacts from stormwater runoff when considering the volume and velocity of stormwater runoff from the project built upon area and the size and existing condition of the receiving stream(s).

Exceptions to this condition require application to and written approval from DWR.

### **II. GENERAL CONDITIONS:**

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.
5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0200]

Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.



For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]
7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]
8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]
10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506 (b)(2) and 15A NCAC 04B .0125]

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

If multiple pipes or barrels are required, they shall be designed to mimic the existing stream cross section as closely as possible, including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]
13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]
14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]
15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]
16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]
18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]
19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.
20. All mechanized equipment operated near surface waters should be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0211 (12)]
21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506 (b)(3) and (c)(3)]
22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.
23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]
24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]
26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website <https://edocs.deq.nc.gov/Forms/Certificate-of-Completion>). [15A NCAC 02H .0502(f)]
28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]
29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

### **III. GENERAL CERTIFICATION ADMINISTRATION:**

1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a Water Quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).
2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or

## GC4132

other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

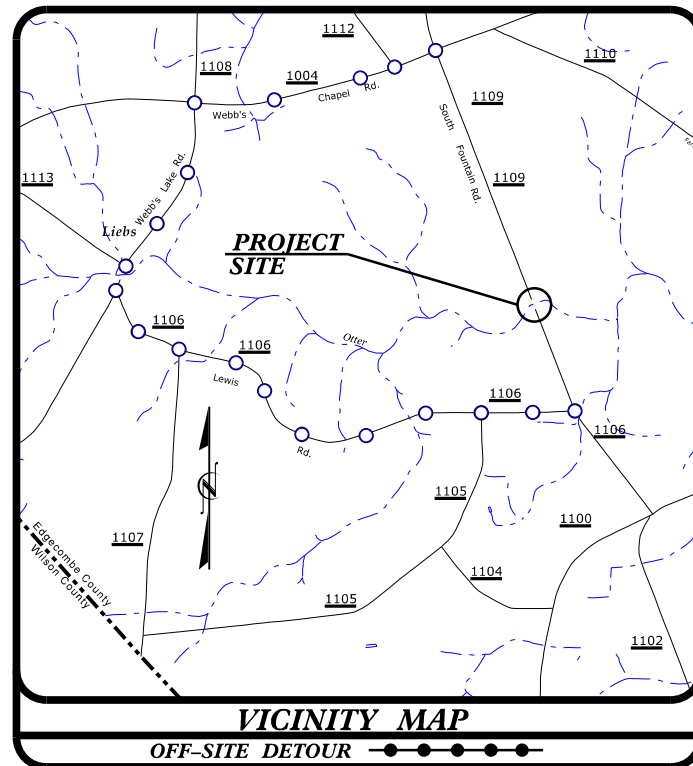
3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]
4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.
5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.
6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the waters or downstream waters are precluded.

*History Note: Water Quality Certification (WQC) Number 4132 issued December 1, 2017 replaces WCQ 4085 issued March 3, 2017; WQC 3883 issued March 19, 2012; WQC Number 3687 issued November 1, 2007; WQC Number 3624 issued March 19, 2007; WQC Number 3494 issued December 31, 2004; and WQC Number 3376 issued March 18, 2002.*

**PROJECT: 17BP.4.R.78**

## **CONTRACT:**

See Sheet 1-A For Index of Sheets



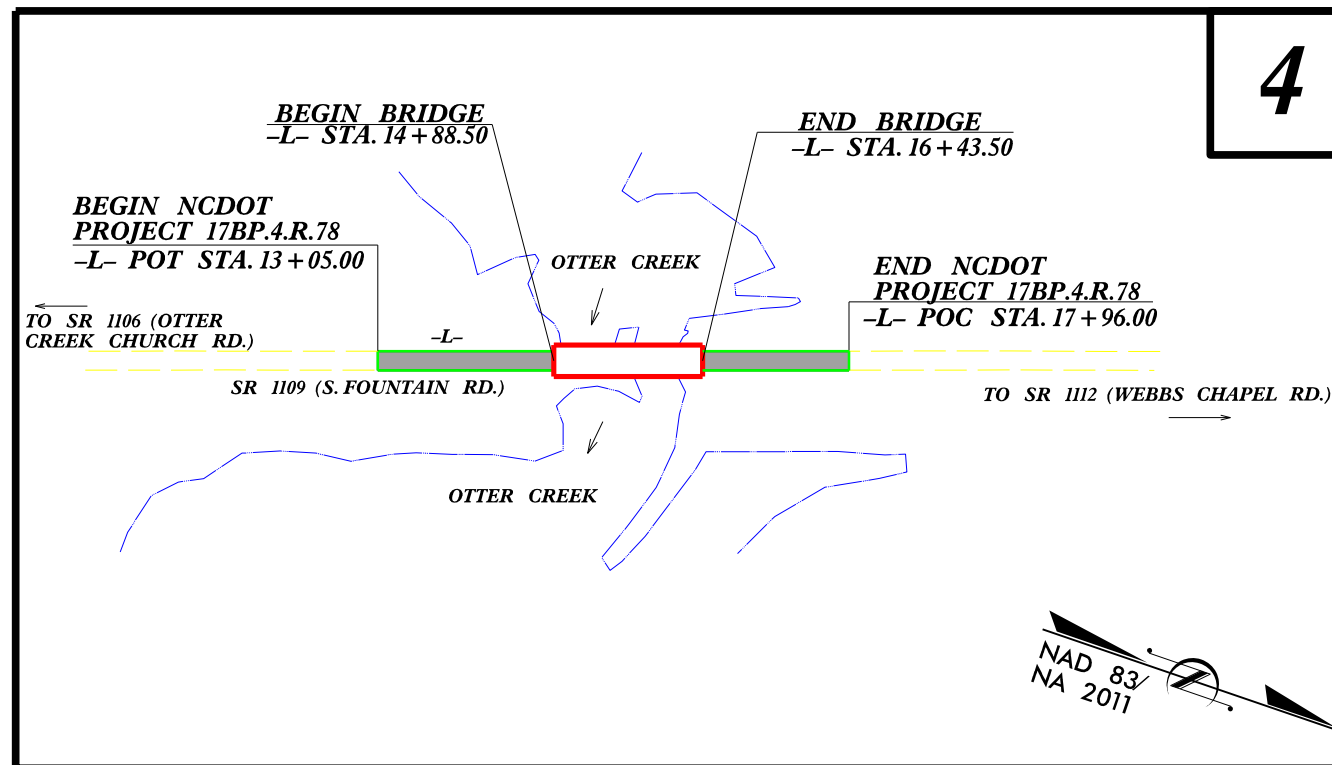
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

***EDGECOMBE COUNTY***

**LOCATION: BRIDGE NO. 67 OVER OTTER CREEK  
ON SR 1109 (SOUTH FOUNTAIN RD.)**

***TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE***

## WETLAND AND SURFACE WATER IMPACTS PERMIT

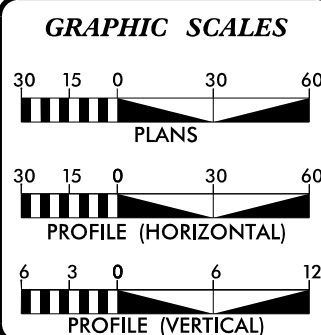


4

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

**PRELIMINARY PLANS**  
**DO NOT USE FOR CONSTRUCTION**

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**DESIGN DATA**  
ADT 2017 = 1000

T = 6 % \*

V = 55 MPH

\* (TTST = 3% + DUAL = 3%)

FUNC CLASS =

RURAL MINOR COLLECTOR

SUBREGIONAL TIER

### PROJECT LENGTH

LENGTH ROADWAY PROJECT 17BP.4.R.78 =	0.064 MILES
LENGTH STRUCTURE PROJECT 17BP.4.R.78 =	0.029 MILES
<b>TOTAL LENGTH PROJECT 17BP.4.R.78 =</b>	<b>0.093 MILES</b>

**NCDOT CONTACT:** COREY MCLAMB, PE  
DIVISION 4 BRIDGE PROGRAM MANAGER

Prepared for:  
**DIVISION OF HIGHWAYS**  
**DIVISION FOUR**  
509 Ward Boulevard, Wilson NC, 27895

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:** EDWARD G. WETHERILL, PE  
PROJECT ENGINEER

**LETTING DATE:**  
**MARCH 21, 2018**

**GREG S. PURVIS, PE**  
**PROJECT DESIGN ENGINEER**

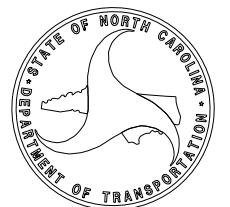
**HYDRAULICS ENGINEER**

P.E.

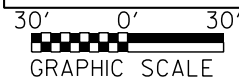
SIGNATURE \_\_\_\_\_

## ROADWAY DESIGN ENGINEER

**SIGNATURE:** \_\_\_\_\_ *P.E.*

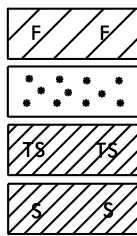


PERMIT DRAWING  
SHEET 2 OF 6



1

K. WEBB



DENOTES FILL IN  
WETLAND

DENOTES MECHANIZED  
CLEARING

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN  
SURFACE WATER

BRIDGE 320067

ROW PLANS

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

H. SMITH LIFE ESTATE ET AL

2

PROJECT REFERENCE NO.

17BP.4.R.78

SHEET NO.

4

R/W SHEET NO.

ROADWAY DESIGN  
ENGINEER

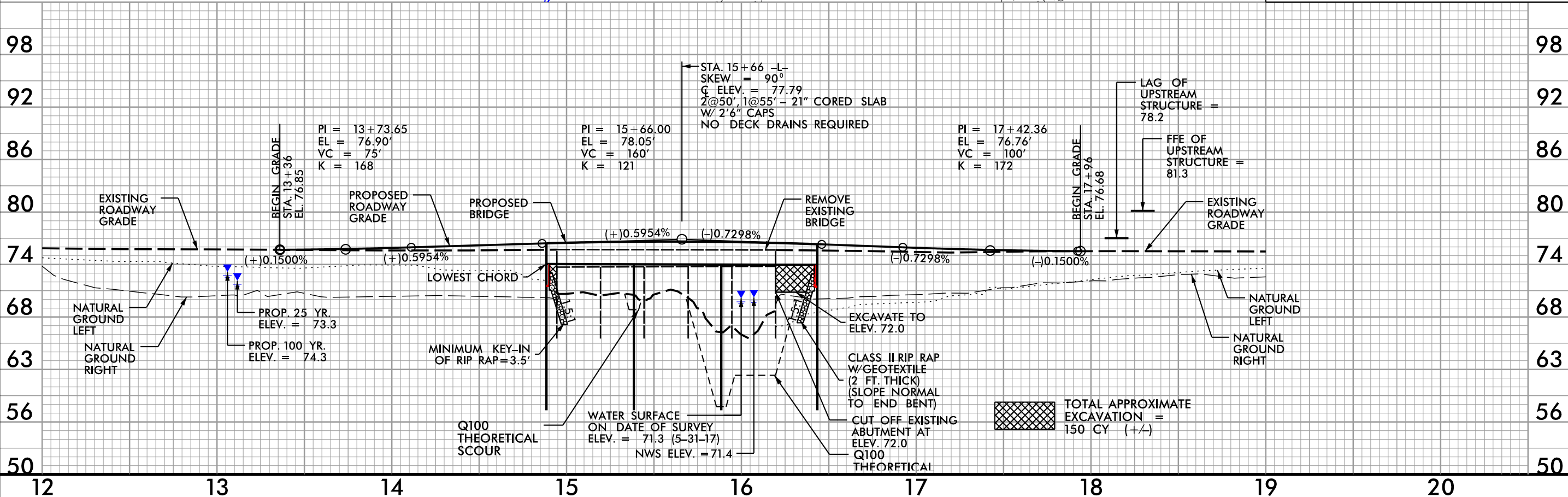
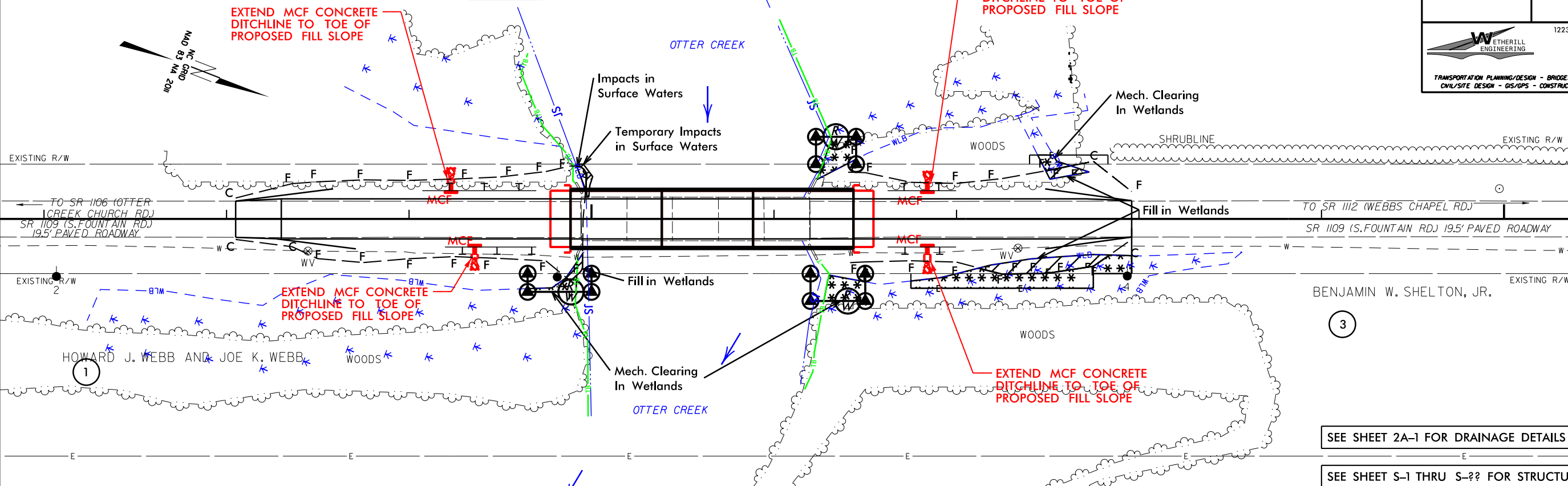
HYDRAULICS  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

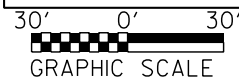


REVISIONS

12/18/2017 KAlford P:\2017\17109.01 EDGEcombe 67 Hydraulics\PERMITS Environmental\Drawings\17109.01 Hyd prm wet.dgn

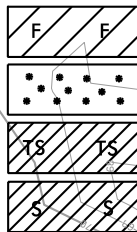


PERMIT DRAWING  
SHEET 3 OF 6



1

K. WEBB



DENOTES FILL IN  
WETLAND

DENOTES MECHANIZED  
CLEARING

DENOTES TEMPORARY  
IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN  
SURFACE WATER

BRIDGE 320067

ROW PLANS

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

H. SMITH LIFE ESTATE ET AL

2

PROJECT REFERENCE NO.

17BP.4.R.78

SHEET NO.

4

R/W SHEET NO.

ROADWAY DESIGN  
ENGINEER

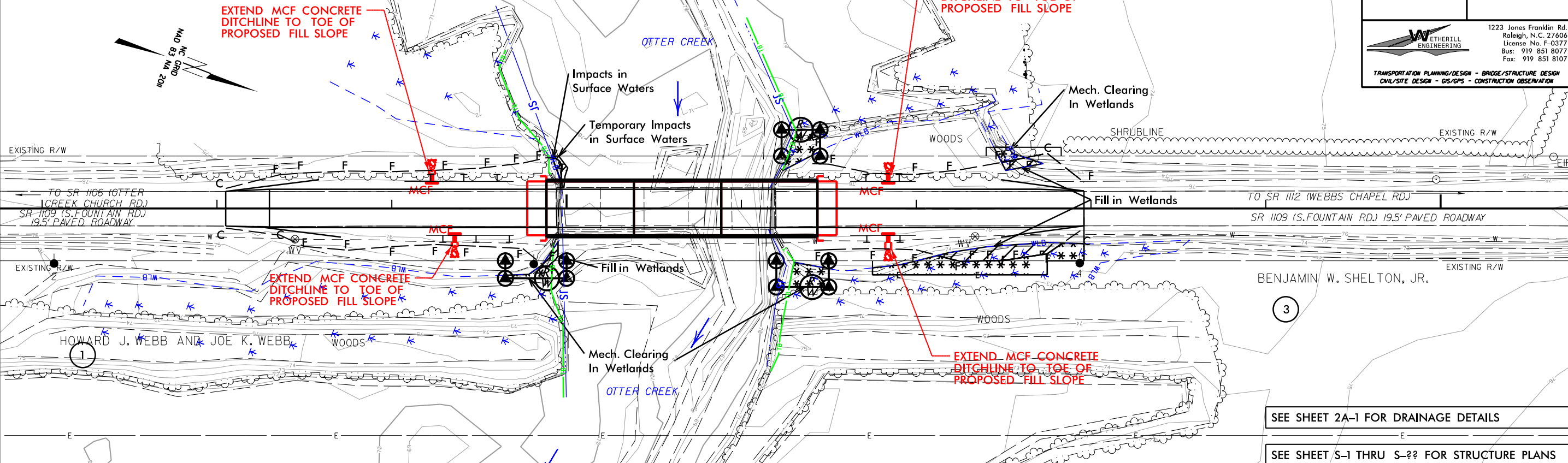
HYDRAULICS  
ENGINEER

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



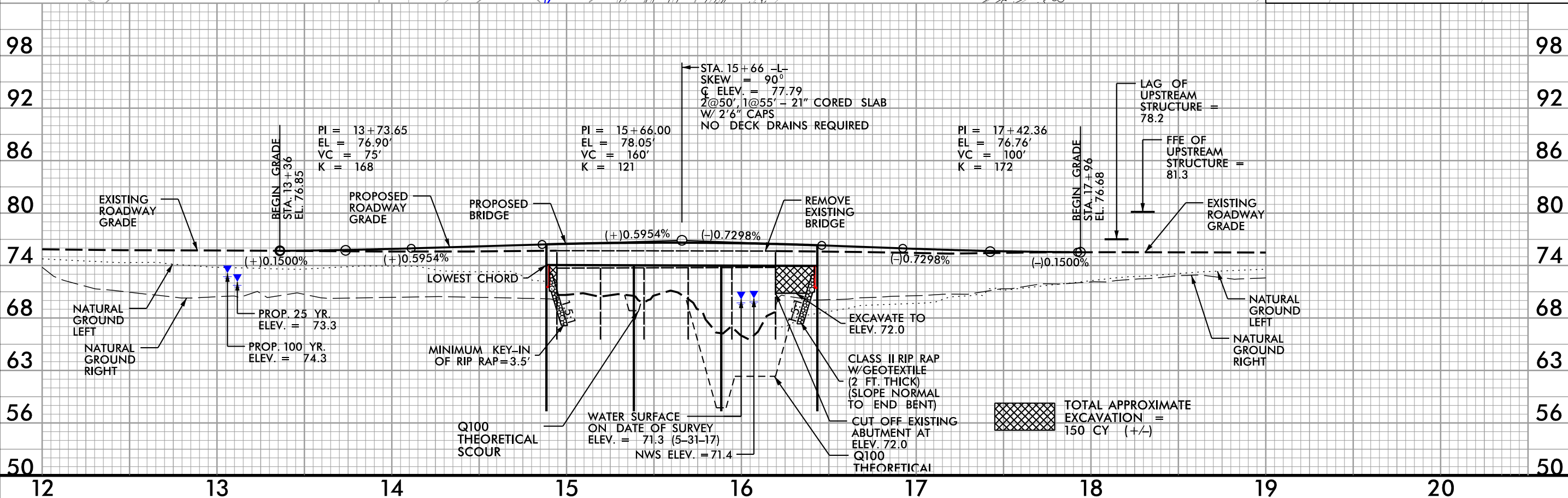
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107



SEE SHEET 2A-1 FOR DRAINAGE DETAILS

SEE SHEET S-1 THRU S-?? FOR STRUCTURE PLANS



REVISIONS

12/18/2017  
KAlford  
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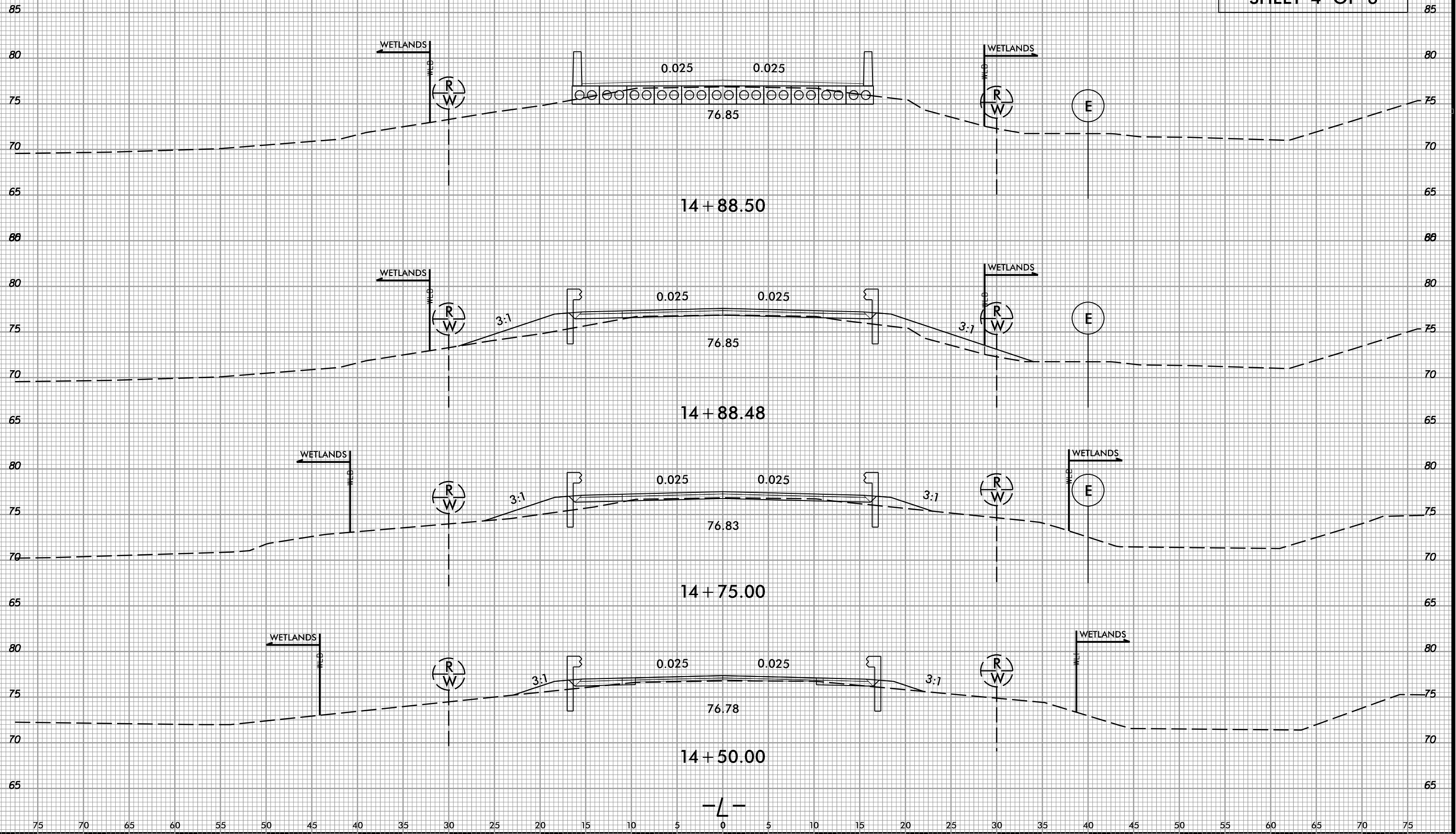
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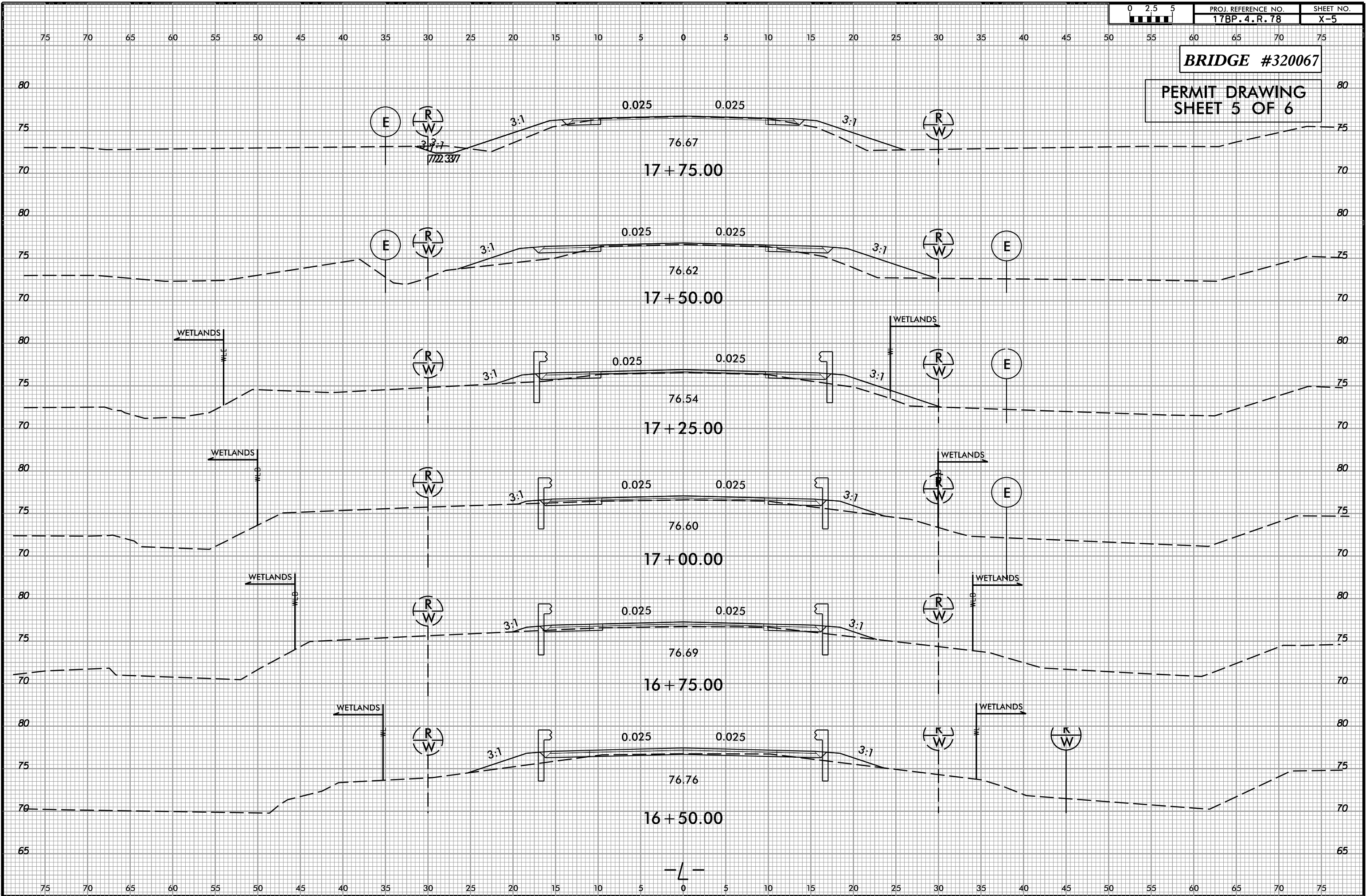


PROJ. REFERENCE NO.	SHEET NO.
17BP.4.R.78	X-2

BRIDGE #320067

PERMIT DRAWING  
SHEET 4 OF 6





WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
	14+65/17+96	ROADWAY	0.01			0.03						
	14+88/16+44	BRIDGE	< 0.01			0.01		< 0.01	< 0.01	14	19	
TOTALS*:			0.01			0.04		< 0.01	< 0.01	14	19	0

\*Rounded totals are sum of actual impacts

NOTES:  
\*Perm Fill in wetlands = 334 sq ft.  
\*Perm SW impacts = 30 sq ft.  
\*Temp SW impacts = 43 sq ft.


NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
12/18/2017  
EDGEcombe CO.  
SF-320067  
17BP.4.R.78  
SHEET 6 OF 6

## **CONTRACT:**

### VICINITY MAP

OFF-SITE DETOUR ●●●●●

## 4







## BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )		
1	Bridge	14+89 TO 16+44		X		821	0	821					
1	ROADWAY	14+27 TO 16+85	X			1129	675	1804					
<b>TOTAL:</b>						1951	675	2625	0	0	0	0	0

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**EDGECOMBE COUNTY**  
**WBS-17BP.4.R.78 (SF-320067)**  
Brg. #67 over Otter Creek  
on SR 1109 (S. Fountain Rd)

SHEET 3 of 4

12/18/2017

## WETLANDS IN BUFFER IMPACTS SUMMARY

			WETLANDS IN BUFFERS	
SITE NO.	STATION (FROM/TO)		ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )
	14+65 to 16+50	ROADWAY	681	0
<b>TOTAL:</b>			681	0

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**EDGECOMBE COUNTY**  
**WBS-17BP.4.R.78 (SF-320067)**  
Brg. #67 over Otter Creek  
on SR 1109 (S. Fountain Rd)

SHEET 4 OF 4

Rev. Jan. 2009



**U.S. ARMY CORPS OF ENGINEERS**  
**WILMINGTON DISTRICT**

Action Id. **SAW-2017-02439**

County: **Edgecombe County** U.S.G.S. Quad: **Fountain**

**GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION**

Permittee: **Chad Coggins**  
**NCDOT/ Division Environmental Officer**  
Address: **Division 4- NCDOT**  
**P.O. Box 3165**  
**Wilson, NC, 27893**  
Telephone Number: **252-717-8699**

Size (acres)	<b><u>N/A</u></b>	Nearest Town	<b><u>Macclesfield</u></b>
Nearest Waterway	<b><u>Otter Creek</u></b>	River Basin	<b><u>Pamlico</u></b>
USGS HUC	<b><u>03020103</u></b>	Coordinates	Latitude: <b><u>35.72239</u></b> Longitude: <b><u>-77.63735</u></b>

Location description: **Bridge No.113 over Otter Creek, on SR 1102, Otter Creek Church Road, southeast of Macclesfield, NC.**

Description of projects area and activity: **Project No. 17BP.4.R.81; Bridge replacement impacting 0.05 acre of wetlands.**

Applicable Law: ☒ Section 404 (Clean Water Act, 33 USC 1344)  
☐ Sections 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Nationwide Permit Number: **NWP 3 Maintenance.**  
***SEE ATTACHED NWP GENERAL, REGIONAL AND SPECIAL CONDITIONS***

**Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated 11/08/2017. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.**

**Special Condition:** 1. This USACE permit does not authorize you to take a threatened or endangered species, in particular, the Northern Long-eared Bat (NLEB) (*Myotis septentrionalis*). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., a Biological Opinion (BO) under the ESA, Section 7, with "incidental take" provisions with which you must comply). The U.S. Fish and Wildlife Service's (USFWS's) Programmatic BO titled "Northern Long-eared Bat (NLEB) Programmatic Biological Opinion for North Carolina Department of Transportation (NCDOT) Activities in Eastern North Carolina (Divisions 1-8)," dated March 25, 2015, and adopted on May 4, 2015, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the BO. Your authorization under this USACE permit is conditioned upon your compliance with all the mandatory terms and conditions (incorporated by reference into this permit) associated with incidental take of the BO. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and would also constitute non-compliance with your USACE permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

Action Id. SAW-2017-02439

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact Eric Alsmeyer at (919) 554-4884 X 23 or Eric.C.Alsmever@usace.army.mil.

Corps Regulatory Official: **GREER.EMILY.C.1385325300** Digitally signed by GREER.EMILY.C.1385325300  
DN: c=US, o=U.S. Government, ou=DoD,  
ou=PKJ, ou=USA,  
cn=GREER.EMILY.C.1385325300  
Date: 2017.11.24 14:36:40 -05'00' for Henry Wicker Date: November 24, 2017  
Expiration Date of Verification: 03/18/2022

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0).

Action ID Number: SAW-2017-02439

County: Edgecombe County

Permittee: Chad Coggins, NCDOT/ Division Environmental Officer

Project Name: NCDOT 17BP.4.R.81 SR 1102 Otter Creek Church Rd BR 113 Edgecombe Div4

Date Verification Issued: November 24, 2017

Project Manager: Eric Alsmeyer

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT  
Attn: Eric Alsmeyer  
Raleigh Regulatory Field Office  
3331 Heritage Trade Drive, Suite 105  
Wake Forest, NC 27587

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

---

Signature of Permittee

---

Date

**NATIONWIDE PERMIT 3**  
**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS**  
**FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS**  
**FEDERAL REGISTER**  
**AUTHORIZED MARCH 19, 2017**

**Maintenance.** (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be

removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

**Notification:** For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404))

**Note:** This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.

## **NATIONWIDE PERMIT GENERAL CONDITIONS**

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.  
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.  
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status,

unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that



might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory

birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-

lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill

material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:  
“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To

validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

\_\_\_\_\_  
(Transferee)

\_\_\_\_\_  
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the

prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters.



Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and

supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

### **DISTRICT ENGINEER'S DECISION**

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal

individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and

include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

### **FURTHER INFORMATION**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

## **DEFINITIONS**

**Best management practices (BMPs):** Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

**Compensatory mitigation:** The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

**Currently serviceable:** Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

**Direct effects:** Effects that are caused by the activity and occur at the same time and place.

**Discharge:** The term “discharge” means any discharge of dredged or fill material into waters of the United States.

**Ecological reference:** A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

**Enhancement:** The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

**Ephemeral stream:** An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Establishment (creation):** The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

**High Tide Line:** The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

**Historic Property:** Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National

Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the

primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine- marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water



surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.

## **FINAL 2017 REGIONAL CONDITIONS**

### ***NOTICE ABOUT WEB LINKS IN THIS DOCUMENT:***

*The web links (both internal to our Wilmington District and any external links to collaborating agencies) in this document are valid at the time of publication. However, the Wilmington District Regulatory Program web page addresses, as with other agency web sites, may change over the timeframe of the five-year Nationwide Permit renewal cycle, in response to policy mandates or technology advances. While we will make every effort to check on the integrity of our web links and provide re-direct pages whenever possible, we ask that you report any broken links to us so we can keep the page information current and usable. We apologize in advanced for any broken links that you may encounter, and we ask that you navigate from the Regulatory home page (Regulatory Permit Program Wetlands and Streams) of the Wilmington District Corps of Engineers, to the “Permits” section of our web site to find links for pages that cannot be found by clicking directly on the listed web link in this document.*

### **Final 2017 Regional Conditions for Nationwide Permits (NWP) in the Wilmington District**

#### **1.0 Excluded Waters**

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

##### **1.1 Anadromous Fish Spawning Areas**

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from the Corps and either NCDMF or NCWRC.

##### **1.2 Trout Waters Moratorium**

Waters of the United States in the designated trout watersheds of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC, or from the Eastern Band of Cherokee Indians (EBCI) Fisheries and Wildlife Management (FWM) office if the project is located on EBCI trust land. (See Section 2.7 for information on the designated trout watersheds).

##### **1.3 Sturgeon Spawning Areas as Designated by the National Marine Fisheries Service (NMFS)**

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the NMFS.

## **2.0 Waters Requiring Additional Notification**

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWPs. These waters are:

### **2.1 Western NC Counties that Drain to Designated Critical Habitat**

For proposed activities within waters of the United States that require a Pre-Construction Notification (PCN) and are located in the sixteen counties listed below, permittees must provide a copy of the PCN to the U.S. Fish and Wildlife Service (USFWS), 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the U.S. Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific notification requirements related to the Endangered Species Act and the below website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville U.S. Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for permittees which provides guidelines on how to review linked websites and maps in order to fulfill NWP General Condition 18 requirements:

<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/AgencyCoordination/ESA.asp>

Permittees who do not have internet access may contact the appropriate U.S. Fish and Wildlife Service offices listed below or Corps at (910) 251-4633:

Asheville U.S. Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsythe and Stokes Counties.

U.S. Fish and Wildlife Service  
Asheville Field Office  
160 Zillicoa Street  
Asheville, NC 28801  
Telephone: (828) 258-3939

Raleigh U.S. Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

U.S. Fish and Wildlife Service  
Raleigh Field Office  
Post Office Box 33726

Raleigh, NC 27636-3726  
Telephone: (919) 856-4520

## **2.2 Special Designation Waters**

Prior to the use of any NWP, except NWP 3, that involves a discharge of dredged or fill material in any of the following identified waters and/or adjacent wetlands in North Carolina, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The North Carolina waters and wetlands that require additional notification requirements are:

“Outstanding Resource Waters” (ORW) or “High Quality Waters” (HQW) as designated by the North Carolina Environmental Management Commission; “Primary Nursery Areas” (PNA), including inland PNA, as designated by the North Carolina Marine Fisheries Commission and the NCWRC; or wetlands adjacent to these waters. Definitions of ORW, HQW and PNA waters can be found in the North Carolina State Administrative Code, Title 15A, Subchapters 2B and 10C (15A NCAC 02B, 15A NCAC 10C) and at the following World Wide Web page:

<http://reports.oah.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality&lookUpError=15A%20NCAC%20000%20>. Surface water classifications for waters in North Carolina can be viewed at the North Carolina Division of Water Resources website or at the following World Wide Web Page:

<https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/classifications>

Permittees who do not have internet access may contact the Corps at (910) 251- 4633.

## **2.3 Coastal Area Management Act (CAMA) Areas of Environmental Concern**

Non-federal permittees for any NWP in a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) must also obtain the required CAMA permit. Development activities for non-federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403, (910) 251-4802 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889, (910) 251-4610).

## **2.4 Barrier Islands**

Prior to the use of any NWP on a barrier island of North Carolina, permittees must submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

## **2.5 Mountain or Piedmont Bogs**

Prior to the use of any NWP in a Bog, as classified by the North Carolina Wetland Assessment Methodology (NCWAM), permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The latest version of NCWAM can be

viewed on the Corps RIBITS (Regulatory In-lieu Fee and Bank Information Tracking System) website or at the following World Wide Web Page:

[https://ribits.usace.army.mil/ribits\\_apex/f?p=107:27:0::NO::](https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::)

## 2.6 Animal Waste Facilities

Prior to use of any NWP for construction of animal waste facilities in waters of the United States, including wetlands, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

## 2.7 Trout Waters

Prior to any discharge of dredge or fill material into streams, waterbodies or wetlands within the 294 designated trout watersheds of North Carolina, the permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity, unless other thresholds are established in the Regional Conditions in Section 4 (Additional Regional Conditions for Specific Nationwide Permits). The permittee shall also provide a copy of the notification to the appropriate NCWRC office, or to the EBCI FWM Office (if the project is located on EBCI trust land), to facilitate the determination of any potential impacts to designated Trout Waters.

Notification to the Corps will include a statement with the name of the NCWRC or EBCI FWM biologist contacted, the date of the notification, the location of work, a delineation of wetlands and waters, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and, if applicable, a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Watersheds:

<b>NCWRC Contact**</b>	<b>Counties that are entirely within Trout Watersheds*</b>	<b>Counties that are partially within Trout Watersheds*</b>
Mountain Coordinator Balsam Depot 20830 Great Smoky Mountain Expressway Waynesville, NC 28786 Telephone: (828) 558-6011  For NCDOT Projects:  NCDOT Coordinator 206 Charter. Street Albemarle, NC 28001 Telephone: (704) 982-9181	Alleghany    Jackson Ashe         Macon Avery         Swain Graham       Transylvania Haywood      Watauga	Burke         McDowell Buncombe    Mitchell Caldwell      Polk Cherokee     Rutherford Clay           Surry Henderson   Wilkes Madison       Yancey

\*NOTE: To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for each County at the following World Wide Web page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout/>.

\*\*If a project is located on EBCI trust land, submit the PCN in accordance with Section 3.14. Contact the Corps Asheville Regulatory Field Office at (828) 271-7980 with questions.

## **2.8 Western NC Waters and Corridors**

The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity in waters of the United States if the activity will occur within any of the following identified waters in western North Carolina, within 0.5 mile on either side of these waters, or within 0.75 mile of the Little Tennessee River, as measured from the top of the bank of the respective water (i.e., river, stream, or creek):

Brasstown Creek  
Burningtown Creek  
Cane River  
Caney Fork  
Cartoogechaye Creek  
Chattooga River  
Cheoah River  
Cowee Creek  
Cullasaja River  
Deep Creek  
Ellijay Creek  
French Broad River  
Garden Creek  
Hiwassee River  
Hominy Creek  
Iotla Creek  
Little Tennessee River (within the river or within 0.75 mile on either side of this river)  
Nantahala River  
Nolichucky River  
North Fork French Broad River  
North Toe River  
Nottley River  
Oconaluftee River (portion not located on trust/EBCI land)  
Peachtree Creek  
Shooting Creek  
Snowbird Creek  
South Toe River  
Stecoah Creek  
Swannanoa River  
Sweetwater Creek

Tuckasegee River (also spelled Tuckaseegee or Tuckaseigee)  
Valley River  
Watauga Creek  
Watauga River  
Wayah Creek  
West Fork French Broad River

To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for all corridors at the following World Wide Web page:  
<http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Designated-Special-Waters.aspx>

### **3.0 List of Corps Regional Conditions for All Nationwide Permits**

The following conditions apply to all Nationwide Permits in the Wilmington District:

#### **3.1 Limitation of Loss of Stream Bed**

NWPs may not be used for activities that may result in the loss or degradation of more than 300 total linear feet of stream bed, unless the District Engineer has waived the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis and has determined that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing and documented by appropriate/accepted stream quality assessments\*. This waiver only applies to the 300 linear feet threshold for NWPs.

This Regional Condition does not apply to NWP 23 (Approved Categorical Exclusions).

\*NOTE: Permittees should utilize the most current methodology prescribed by Wilmington District to assess stream function and quality. Information can be found at:  
[https://ribits.usace.army.mil/ribits\\_apex/f?p=107:27:0::NO::](https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::)

#### **3.2 Mitigation for Loss of Stream Bed**

For any NWP that results in a loss of more than 150 linear feet of stream, the permittee shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment. For stream losses of 150 linear feet or less that require a PCN, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

#### **3.3 Pre-construction Notification for Loss of Streambed Exceeding 150 Feet**

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream, intermittent or ephemeral stream, the permittee shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). This applies to

NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

### **3.4 Restriction on Use of Live Concrete**

For all NWPs which allow the use of concrete as a building material, live or fresh concrete, including bags of uncured concrete, may not come into contact with the water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to waters of the United States after the concrete is set and cured and when it no longer poses a threat to aquatic organisms.

### **3.5 Requirements for Using Riprap for Bank Stabilization**

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

**3.5.1.** Where bank stabilization is conducted as part of an activity, natural design, bioengineering and/or geoengineering methods that incorporate natural durable materials, native seed mixes, and native plants and shrubs are to be utilized to the maximum extent practicable.

**3.5.2.** Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters. The placement of filter fabric is not required if the riprap will be pushed or “keyed” into the bank of the waterbody. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional Condition would result in greater adverse impacts to the aquatic environment.

**3.5.3.** The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

**3.5.4.** The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

**3.5.5.** It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

**3.5.6.** The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

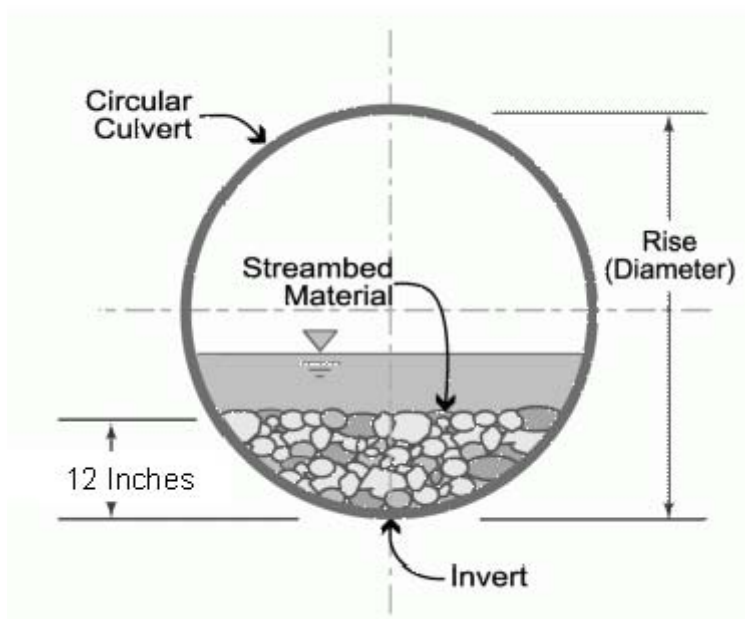
### **3.6 Requirements for Culvert Placement**

**3.6.1** For all NWPs that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by altering the width or depth of the stream profile in connection with the construction activity. The width, height, and gradient of a proposed culvert should be



sufficient to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow is the seasonal sustained high flow that typically occurs in the spring. Spring flows should be determined from gage data, if available. In the absence of such data, bank-full flow can be used as a comparable indicator.

In Public Trust Areas of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by the Coastal Area Management Act (CAMA): All pipes/culverts must be sufficiently sized to allow for the burial of the bottom of the culvert at least one foot below normal bed elevation.



In all other areas: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried to maintain aquatic passage and to maintain passage during drought or low flow conditions, and every effort shall be made to maintain the existing channel slope.

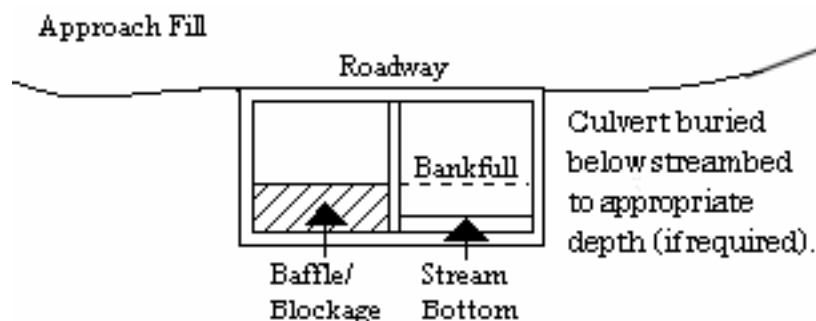
Culverts must be designed and constructed in a manner that minimizes destabilization and head cutting. Destabilizing the channel and head cutting upstream should be considered and appropriate actions incorporated in the design and placement of the culvert.

A waiver from the depth specifications in this condition may be requested, in writing, by the permittee and issued by the Corp; this request must be specific as to the reasons(s) for the request. The waiver will be issued if it can be demonstrated that the proposed design would result in less impacts to the aquatic environment.

All counties: Culverts placed within riparian and/or riverine wetlands must be installed in a manner that does not restrict the flow and circulation patterns of waters of the United States.

Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

**3.6.2** Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts or culvert barrels at such crossings shall be allowed only to receive bank-full flows.



**3.6.3** Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation. Additional culverts or culvert barrels at such crossings should not be buried, or if buried, must have sills at the inlets to ensure that they only receive flows exceeding bank-full.

**3.6.4** Excavation of existing stream channels shall be limited to the minimum necessary to construct or install the proposed culvert. The final width of the impacted stream at the culvert inlet and outlet should be no greater than the original stream width. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if the proposed design would result in less impacts to the aquatic environment and/or if it can be demonstrated that it is not practicable to restore the final width of the impacted stream at the culvert inlet and outlet to the width of the original stream channel.

**3.6.5** The width of the culvert shall be comparable to the width of the stream channel. If the width of the culvert is wider than the stream channel, the culvert shall include baffles, benches and/or sills to maintain the width of the stream channel. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if it can be demonstrated that it is not practicable or necessary to include baffles, benches or sills and the design would result in less impacts to the aquatic environment.

### **3.7 Notification to NCDEQ Shellfish Sanitation Section**

Permittees shall notify the NCDEQ Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand

should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued by the permittee.

### **3.8 Submerged Aquatic Vegetation**

Impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP, except NWP 48, unless EFH Consultation has been completed pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). Permittees shall submit a PCN (See NWP General Condition 32) to the District Engineer prior to commencing the activity if the project would affect SAV. The permittee may not begin work until notified by the Corps that the requirements of the Magnuson-Stevens Act have been satisfied and that the activity is authorized.

### **3.9 Sedimentation and Erosion Control Structures and Measures**

All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the United States. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

### **3.10 Restoration of Temporary Impacts to Stream Beds**

Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material such that the impacted stream reach mimics the adjacent upstream and downstream reach. The impacted area shall be backfilled with natural streambed material to a depth of at least 12 inches or to the bottom depth of the impacted area if shallower than 12 inches. An engineered in-stream structure or material can be used to provide protection of a buried structure if it provides benefits to the aquatic environment and can be accomplished by a natural streambed design. A permittee may request a waiver of this condition if it is determined a buried structure needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

### **3.11 Restoration of Temporary Impacts to Stream Banks**

Upon completion of work involving temporary stream bank impacts, stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable. Natural durable materials, native seed mixes, and native plants and shrubs are to be utilized in the restoration. Natural designs which use bioengineered and/or geo-engineered methods are to be applied. An engineered structure or material can be used to provide protection of a buried structure if it provides benefits to the stream bank environment, provided it is not in excess of the minimum amount needed for protection and does not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark. A permittee may request a waiver of this condition if it is determined a buried structure

needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

### **3.12 Federal Navigation Channel Setbacks and Corps Easements**

**3.12.1** Authorized structures and fills located in or adjacent to Federally authorized waterways will be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at <http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx>. This general permit does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to the construction of any structures or fills within the Federally Authorized Channel Setback.

**3.12.2** The permittee shall obtain a Consent to Cross Government Easement from the Wilmington District's Land Use Coordinator prior to any crossing of the Corps easement and/or prior to commencing construction of any structures, authorized dredging or other work within the right-of-way of, or in proximity to, a federally designated disposal area. The Land Use Coordinator may be contacted at: CESA-W-OP-N, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343, email: [SAWWeb-NAV@usace.army.mil](mailto:SAWWeb-NAV@usace.army.mil)

### **3.13 Northern Long-eared Bat – Endangered Species Act Compliance**

The Wilmington District, U.S. Army Corps of Engineers has consulted with the United States Fish and Wildlife Service (USFWS) in regards to the threatened Northern long-eared bat (NLEB) (*Myotis septentrionalis*) and Standard Local Operating Procedures for Endangered Species (SLOPES) have been approved by the Corps and the USFWS. This condition concerns effects to the NLEB only and does not address effects to other federally listed species and/or federally designated critical habitat.

A. Procedures when the Corps is the lead federal\* agency for a project:

The permittee must comply with (1) and (2) below when:

- the project is located in the western 41 counties of North Carolina, to include non-federal aid North Carolina Department of Transportation (NCDOT) projects, OR;
- the project is located in the 59 eastern counties of North Carolina, and is a non-NCDOT project.

\*Generally, if a project is located on private property or on non-federal land, and the project is not being funded by a federal entity, the Corps will be the lead federal agency due to the requirement to obtain Department of the Army authorization to impact waters of the United States. If the project is located on federal land, contact the Corps to determine the lead federal agency.

(1) A permittee using a NWP must check to see if their project is located in the range of the NLEB by using the following website:

<http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>. If the project is within the range of the NLEB, or if the project includes percussive activities (e.g., blasting, pile driving, etc.), the permittee is then required to check the appropriate website in the paragraph below to discover if their project:

- is located in a 12-digit Hydrologic Unit Code area (“red HUC” - shown as red areas on the map), AND/OR;
- involves percussive activities within 0.25 mile of a red HUC.

Red HUC maps - for the western 41 counties in NC (covered by the Asheville Ecological Services Field Office), check the project location against the electronic maps found at: [http://www.fws.gov/asheville/htmls/project\\_review/NLEB\\_in\\_WNC.html](http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html). For the eastern 59 counties in NC (covered by the Raleigh Ecological Services Field Office), check the project location against the electronic maps found at:

[https://www.fws.gov/raleigh/NLEB\\_RFO.html](https://www.fws.gov/raleigh/NLEB_RFO.html).

(2) A permittee must submit a PCN to the District Engineer, and receive written authorization from the District Engineer, prior to commencing the activity, if the activity will involve any of the following:

- tree clearing/removal, construction/installation of wind turbines in a red HUC, AND/OR;
- bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, (applies anywhere in the range of the NLEB), AND/OR;
- percussive activities in a red HUC, or within 0.25 mile of a red HUC.

The permittee may proceed with the activity without submitting a PCN to either the Corps or the USFWS, provided the activity complies with all applicable NWP terms and general and regional conditions, if the permittee’s review under A.(1) and A.(2) above shows that the project is:

- located outside of a red HUC (and there are no percussive activities), and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;
- located outside of a red HUC and there are percussive activities, but the percussive activities will not occur within 0.25-mile of a red HUC boundary, and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;

- located in a red HUC, but the activity will NOT include: tree clearing/removal; construction/installation of wind turbines; bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, and/or; any percussive activities.

#### B. Procedures when the USACE is not the lead federal agency:

For projects where another federal agency is the lead federal agency - if that other federal agency has completed project-specific ESA Section 7(a)(2) consultation for the NLEB, and has (1) determined that the project would not cause prohibited incidental take of the NLEB, and (2) completed coordination/consultation that is required by the USFWS (per the directions on the respective USFWS office's website), that project may proceed without notification to either the USACE or the USFWS, provided all General and Regional Permit Conditions are met.

The NLEB SLOPES can be viewed on the USACE website at the following World Wide Web Page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>. Permittees who do not have internet access may contact the USACE at (910) 251- 4633.

### **3.14 Work on Eastern Band of Cherokee Indians Land**

All PCNs submitted for activities in waters of the United States on Eastern Band of Cherokee Indians (EBCI) trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land), must comply with the requirements of the latest MOU between the Wilmington District and the Eastern Band of Cherokee Indians.

## **4.0 Additional Regional Conditions for Specific Nationwide Permits**

### **4.1 NWP #3 – Maintenance**

**4.1.1** In designated trout watersheds, a PCN is not required for impacts to a maximum of 75 linear feet (150 linear feet for temporary dewatering) of streams and waterbodies when conducting maintenance activities. Minor deviations in an existing structure's configuration, temporary structures and temporary fills are authorized as part of the maintenance activity. In designated trout watersheds, the permittee shall submit a PCN (see Regional Condition 2.7 and General Condition 32) to the District Engineer prior to commencing the activity if; 1) impacts (other than temporary dewatering to work in dry conditions) to streams or waterbodies exceed 75 linear feet; 2) temporary impacts to streams or waterbodies associated with dewatering to work in dry conditions exceeds 150 linear feet; 3) the project will involve impacts to wetlands; 4) the project involves the replacement of a bridge or spanning structure with a culvert or non-spanning structure in waters of the United States; or 5) the activity will be constructed during the trout waters moratorium (October 15 through April 15).

**4.1.2** The permittee shall submit a PCN (see NWP General Condition 32) to the District Engineer prior to commencing the activity if the activity involves repair, rehabilitation or replacement of impounding structures or parts of impounding structures or fills.

**4.1.3** The permittee shall submit a PCN to the District Engineer prior to commencing the activity if the activity will involve the discharge of dredged or fill material into more than 1/10-acre of wetlands or 150 linear feet of stream channel for the construction of temporary access fills and/or temporary road crossings. The PCN must include a restoration plan that thoroughly describes how all temporary fills will be removed, how pre-project conditions will be restored, and include a timetable for all restoration activities.





ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Interim Director*

November 21, 2017  
Edgecombe County  
NCDWR Project No. 20171436  
Bridge 113 on SR 1102  
State Project No. 17BP.4.R.81

**APPROVAL of 401 WATER QUALITY CERTIFICATION and TAR-PAMLICO BUFFER AUTHORIZATION, with ADDITIONAL CONDITIONS**

Mr. Ronnie Keeter, PE., Division Engineer  
NCDOT, Division 4  
PO Box 3165  
Wilson, NC 27895

Dear Mr. Keeter:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge 113 in Edgecombe County:

**Wetland Impacts in the Tar-Pamlico River Basin**

Site	Permanent Fill (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)
Total	0.01	0.04	0.05

**Total Wetland Impact for Project: 0.05 acres.**

**Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
Totals	2381	N/A	973	N/A

\* n/a = Total for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

**Total Buffer Impact for Project: 3354 square feet.**

The project shall be constructed in accordance with your application received November 8, 2017. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 4085. This certification corresponds to the Nationwide Permit 3 issued by the Corps of Engineers. This approval is also valid for the Tar-Pamlico Riparian Buffer Rules (15A NCAC 2B.0259). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.

This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as



described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0259. For this approval to remain valid, you must adhere to the conditions listed in the General Certification and any additional conditions listed below.

**Conditions of Certification:**

1. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
2. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
3. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
4. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from the NCDWR first. [15A NCAC 02H.0506(b)(2)]
5. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]
6. A turbidity curtain will be installed in the stream if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
7. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 2B.0259]
8. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 2B.0259]
9. Pursuant to 15A NCAC 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any (Neuse, Tar-Pamlico, Catawba, Randleman, Jordan) Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
10. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
11. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
12. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
13. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]

14. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
15. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
16. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
17. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
18. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
19. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
20. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
21. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
22. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
23. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
24. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
25. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
26. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
27. Native riparian vegetation (i.e. trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0259(10)] & [15A NCAC 02B.0506(b)(2)]
28. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]

29. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

30. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

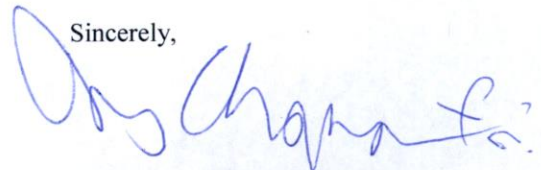
Office of Administrative Hearings  
6714 Mail Service Center  
Raleigh, NC 27699-6714  
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Sam M. Hayes, General Counsel  
Department of Environmental Quality  
1601 Mail Service Center

This letter completes the review of the Division of Water Resources under Section 401 of the Clean Water Act. If you have any questions, please contact Rob Ridings at 919-707-8786.

Sincerely,



Linda Culpepper, Interim Director  
Division of Water Resources

Electronic copy only distribution:

Tom Steffens, US Army Corps of Engineers, Washington Field Office  
Chad Coggins, Division 4 Environmental Officer  
File Copy





ROY COOPER  
*Governor*

MICHAEL S. REGAN  
*Secretary*

LINDA CULPEPPER  
*Interim Director*

NCDWR Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

#### **Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

#### ***Applicant's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### ***Agent's Certification***

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

#### ***Engineer's Certification***

\_\_\_\_\_ Partial \_\_\_\_\_ Final

I, \_\_\_\_\_, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_

**STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER RESOURCES**

**WATER QUALITY GENERAL CERTIFICATION NO. 4132**

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS**

- **NATIONWIDE PERMIT 3 (MAINTENANCE),**
- **NATIONWIDE PERMIT 4 (FISH AND WILDLIFE HARVESTING, ENHANCEMENT, AND ATTRACTION DEVICES AND ACTIVITIES),**
- **NATIONWIDE PERMIT 5 (SCIENTIFIC MEASUREMENT DEVICES),**
- **NATIONWIDE PERMIT 6 (SURVEY ACTIVITIES),**
- **NATIONWIDE PERMIT 7 (OUTFALL STRUCTURES AND ASSOCIATED INTAKE STRUCTURES),**
- **NATIONWIDE PERMIT 19 (MINOR DREDGING),**
- **NATIONWIDE PERMIT 20 (RESPONSE OPERATIONS FOR OIL OR HAZARDOUS SUBSTANCES),**
- **NATIONWIDE PERMIT 22 (REMOVAL OF VESSELS),**
- **NATIONWIDE PERMIT 25 (STRUCTURAL DISCHARGES),**
- **NATIONWIDE PERMIT 30 (MOIST SOIL MANAGEMENT FOR WILDLIFE),**
- **NATIONWIDE PERMIT 32 (COMPLETED ENFORCEMENT ACTIONS),**
- **NATIONWIDE PERMIT 36 (BOAT RAMPS),**
- **REGIONAL GENERAL PERMIT 197800056 (PIERS, DOCKS AND BOATHOUSES), AND**
- **REGIONAL GENERAL PERMIT 197800125 (BOAT RAMPS)**

Water Quality Certification Number 4132 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (3, 4, 5, 6, 7, 19, 20, 22, 25, 30, 32, and 36) of the US Army Corps of Engineers regulations and Regional General Permits 197800056 and 197800125.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017  
Signed this day: December 1, 2017

By

A handwritten signature in black ink, appearing to read 'Linda Culpepper', is written over a horizontal line.

*for* Linda Culpepper  
Interim Director

**Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Resources (DWR):**

- a) If any of the conditions of this Certification (listed below) cannot be met; or
- b) Total additional permanent impacts to streams (including stream relocations or restorations) greater than 40 linear feet at an existing stream impact location; or
- c) Total temporary and permanent impacts to wetlands or open waters equal to or greater than one-tenth (1/10) of an acre; or
- d) Complete dewatering and drawdowns to a sediment layer related to pond/dam maintenance or removal; or
- e) Any impacts to streams from excavation or dredging other than excavation that is conducted as preparation for installing permanent fill or structures or projects qualifying for a Nationwide Permit 19; or
- f) Except for projects qualifying for a Nationwide permit 3, any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
- g) Any high-density project, as defined in 15A NCAC 02H .1003(2)(a) and by the density thresholds specified in 15A NCAC 02H .1017, which:
  - i. Disturbs one acre or more of land (including a project that disturbs less than one acre of land that is part of a larger common plan of development or sale); and
  - ii. Has permanent wetland, stream or open water impacts; and
  - iii. Is proposing new built-upon area; and
  - iv. Does not have a stormwater management plan reviewed and approved under a state stormwater program<sup>1</sup> or a state-approved local government stormwater program<sup>2</sup>.

Projects that have vested rights, exemptions, or grandfathering from state or locally-implemented stormwater programs and projects that satisfy state or locally-implemented stormwater programs through use of community in-lieu programs **require written approval**; or

- h) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
- i) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
- j) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless*:

<sup>1</sup> e.g. Coastal Counties, HQW, ORW, or state-implemented Phase II NPDES

<sup>2</sup> e.g. Delegated Phase II NPDES, Water Supply Watershed, Nutrient-Sensitive Waters, or Universal Stormwater Management Program

## GC4132

- i. The activities are listed as “EXEMPT” from these rules; or
- ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
- iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

**Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval.**

### **I. ACTIVITY SPECIFIC CONDITIONS:**

1. For all dam removal projects meeting the definition under G.S. 143-215.25 and requirements under G.S. 143-215.27 of a professionally supervised dam removal, the applicant shall provide documentation that any sediment that may be released has similar or lower level of contamination than sediment sampled from downstream of the dam in accordance with Session Law 2017-145.
2. For the North Carolina Department of Transportation, compliance with the NCDOT’s individual NPDES permit NCS000250 shall serve to satisfy this condition. All other high-density projects that trigger threshold item (g) above shall comply with one of the following requirements: [15A NCAC 02H .0506(b)(5) and (c)(5)]
  - a. Provide a completed Stormwater Management Plan (SMP) for review and approval, including all appropriate stormwater control measure (SCM) supplemental forms and associated items, that complies with the high-density development requirements of 15A NCAC 02H .1003. Stormwater management shall be provided throughout the entire project area in accordance with 15A NCAC 02H .1003. For the purposes of 15A NCAC 02H .1003(2)(a), density thresholds shall be determined in accordance with 15A NCAC 02H .1017.
  - b. Provide documentation (including calculations, photos, etc.) that the project will not cause degradation of downstream surface waters. Documentation shall include a detailed analysis of the hydrological impacts from stormwater runoff when considering the volume and velocity of stormwater runoff from the project built upon area and the size and existing condition of the receiving stream(s).

Exceptions to this condition require application to and written approval from DWR.

### **II. GENERAL CONDITIONS:**

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]

2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.
5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0200]

Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.



For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]
7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]
8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]
10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506 (b)(2) and 15A NCAC 04B .0125]

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

If multiple pipes or barrels are required, they shall be designed to mimic the existing stream cross section as closely as possible, including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]
13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]
14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]
15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]
16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]
18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]
19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.
20. All mechanized equipment operated near surface waters should be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0211 (12)]
21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506 (b)(3) and (c)(3)]
22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.
23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]
24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]
26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website <https://edocs.deq.nc.gov/Forms/Certificate-of-Completion>). [15A NCAC 02H .0502(f)]
28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]
29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

### **III. GENERAL CERTIFICATION ADMINISTRATION:**

1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a Water Quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).
2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or

## GC4132

other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]
4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.
5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.
6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the waters or downstream waters are precluded.

*History Note: Water Quality Certification (WQC) Number 4132 issued December 1, 2017 replaces WCQ 4085 issued March 3, 2017; WQC 3883 issued March 19, 2012; WQC Number 3687 issued November 1, 2007; WQC Number 3624 issued March 19, 2007; WQC Number 3494 issued December 31, 2004; and WQC Number 3376 issued March 18, 2002.*



## North Carolina Department of Transportation

Highway Stormwater Program  
STORMWATER MANAGEMENT PLAN  
FOR NCDOT PROJECTS

(Version 2.01; Released December 2014)

WBS Element: 17BP.4.R.81 TIP No.: 320113 County(ies): Edgecombe Page 1 of 1

## General Project Information

WBS Element:	17BP.4.R.81	TIP Number:	320113	Project Type:	Bridge Replacement	Date:	7/11/2017
NCDOT Contact:	Chad Coggins	Contractor / Designer:	Wetherill Engineering, Inc. / Harminder Singh, PE				
Address:	Highway Division 4	Address:	1223 Jones Franklin Rd.				
	509 Ward Blvd, PO BOX 3165		Raleigh, NC 27606				
	Wilson, NC 27895						
Phone:	(252)237-6164	Phone:	919-851-8077				
Email:	ccoggins@ncdot.gov	Email:	hsingh@wetherilleng.com				
City/Town:	N/A			County(ies):	Edgecombe		
River Basin(s):	Tar-Pamlico			CAMA County?	No		
Wetlands within Project Limits?	Yes						

## Project Description

Project Length (lin. miles or feet):	0.08	Surrounding Land Use:	Rural, Wooded, Agricultural				
		Proposed Project	Existing Site				
Project Built-Up Area (ac.)	0.3	ac.	0.2		ac.		
Typical Cross Section Description:	(2) 11' lanes with grassed shoulders and up to 2.95' shoulders with guardrail. 3' shoulders are variable width paved.		(2) 10' lanes with grassed shoulders				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	210	Year:	2017	Existing:	Year:	
General Project Narrative: (Description of Minimization of Water Quality Impacts)	Replace bridge no. 113 over Otter Creek on SR 1102 Otter Creek Church Rd. Use 1@50', 1@55' 21" Cored Slab. At end bridge, a TB 2GI will outlet outside the buffer zones on upstream side of the bridge with 15" RCP with Class B rip rap used to stabilize the outlet. At begin bridge, a TB 2GI will outlet into a ditch on the downstream side of the bridge with 15" RCP with Class B rip rap used to stabilize the outlet. No deck drains will discharge directly into channel.						

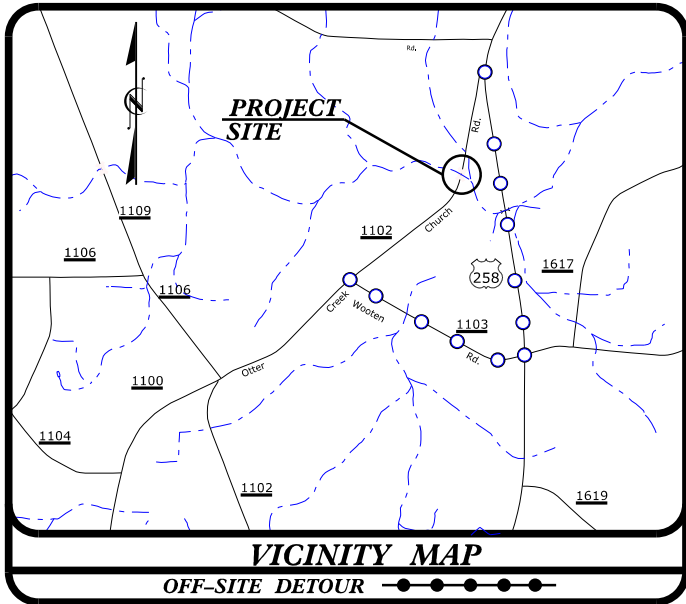
## Waterbody Information

Surface Water Body (1):	Otter Creek		NCDWR Stream Index No.:	28-86-(0.3)		
NCDWR Surface Water Classification for Water Body	Primary Classification:	Class C	None			
	Supplemental Classification:	Nutrient Sensitive Waters (NSW)	None			
Other Stream Classification:	None					
Impairments:	None					
Threatened/Endangered Species?	No	Comments:				
NRTR Stream ID:				Buffer Rules in Effect:	Tar-Pamlico	
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?	N/A	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

PROJECT: 17BP.4.R.81

CONTRACT:

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**EDGECOMBE COUNTY**


LOCATION: BRIDGE NO. 113 OVER OTTER CREEK  
ON SR 1102 (OTTER CREEK CHURCH RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

WETLAND AND SURFACE WATER IMPACTS PERMIT

PERMIT DRAWING  
SHEET 1 OF 5

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.4.R.81	1	
STATE PROJ. NO.		F.A. PROJ. NO.	DESCRIPTION
17BP.4.R.81			PE, UTIL., R/W CONST.

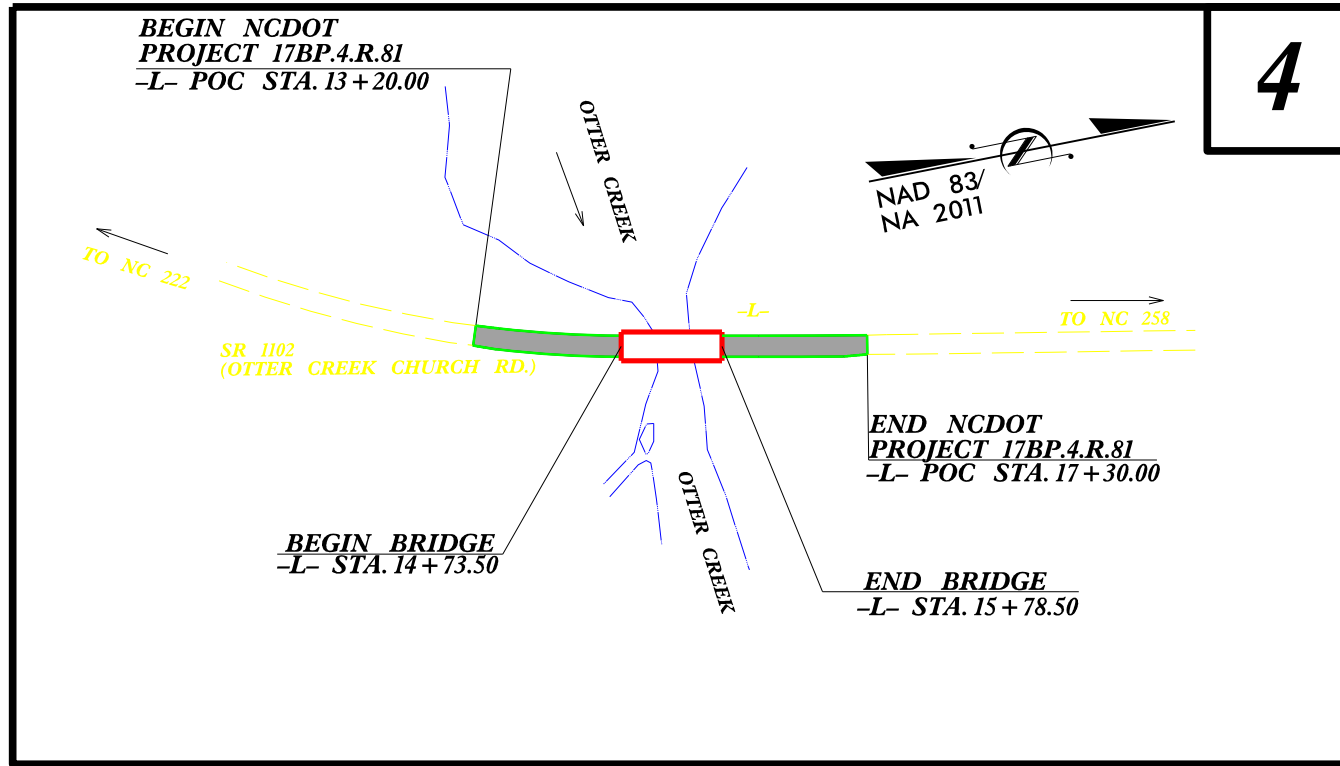


1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

BRIDGE #320113

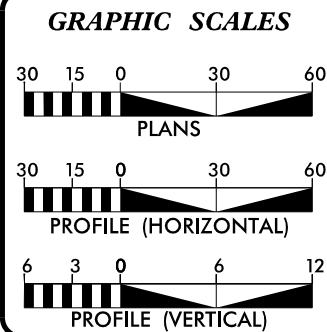
PRELIM. ROADWAY PLANS



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION  
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

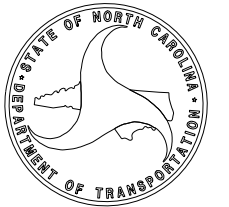


DESIGN DATA  
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T = 6 % \*  
V = 55 MPH  
\* (TTST = 3% + DUAL = 3%)  
FUNC CLASS =  
RURAL LOCAL  
SUBREGIONAL TIER

PROJECT LENGTH	
LENGTH ROADWAY PROJECT 17BP.4.R.81 =	0.058 MILES
LENGTH STRUCTURE PROJECT 17BP.4.R.81 =	0.020 MILES
TOTAL LENGTH PROJECT 17BP.4.R.81 =	0.078 MILES
NCDOT CONTACT: COREY MCLAMB, PE DIVISION 4 BRIDGE PROGRAM MANAGER	

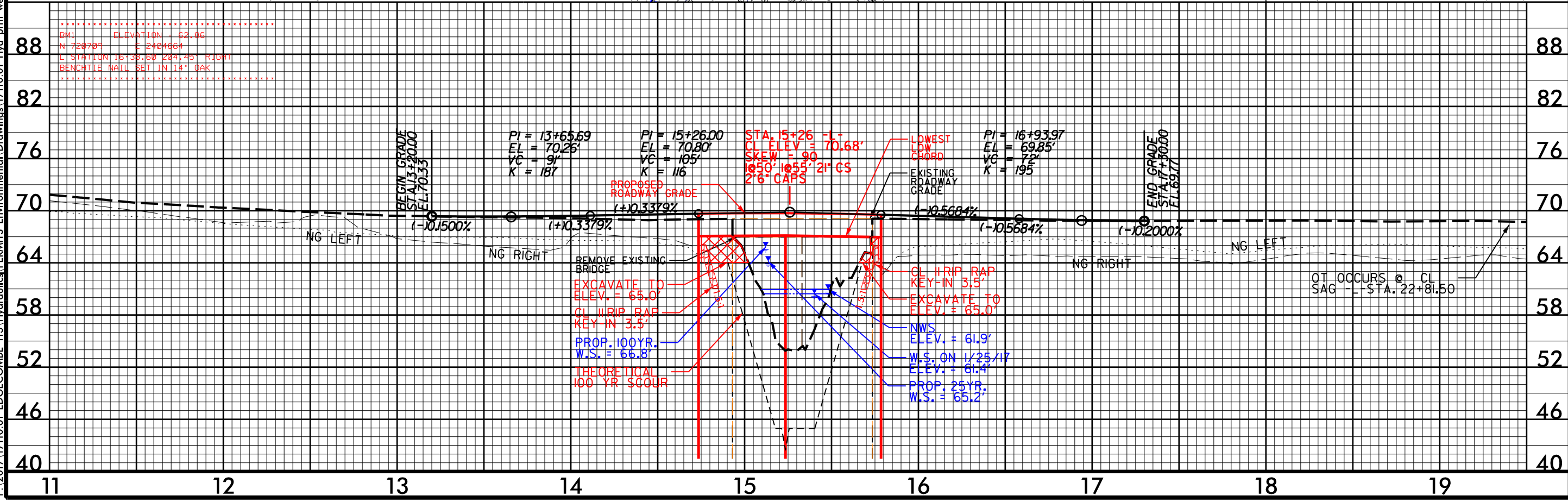
Prepared for: DIVISION OF HIGHWAYS DIVISION FOUR 509 Ward Boulevard, Wilson NC, 27895	
2012 STANDARD SPECIFICATIONS RIGHT OF WAY DATE:	EDWARD G. WETHERILL, PE PROJECT ENGINEER
LETTING DATE:	GREG S. PURVIS, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.









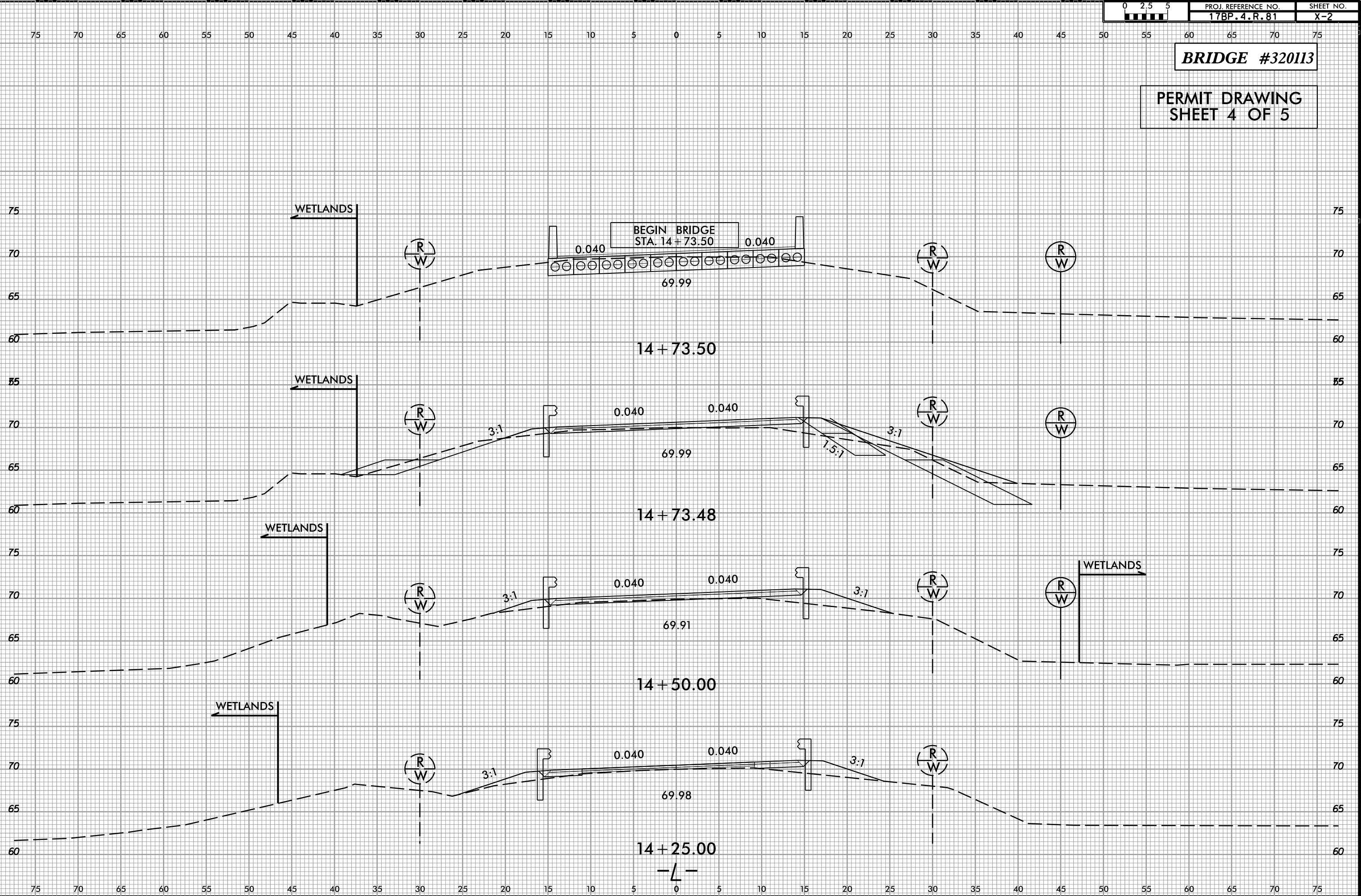
6/23/16



PROJ. REFERENCE NO.	SHEET NO.
17BP.4.R.81	X-2

BRIDGE #320113

PERMIT DRAWING  
SHEET 4 OF 5



WETLAND PERMIT IMPACT SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 14+40 to 16+80	ROADWAY				0.04						
	-L- 14+74 to 15+79	BRIDGE	< 0.01									
TOTALS*:			< 0.01			0.04				0	0	0

\*Rounded totals are sum of actual impacts

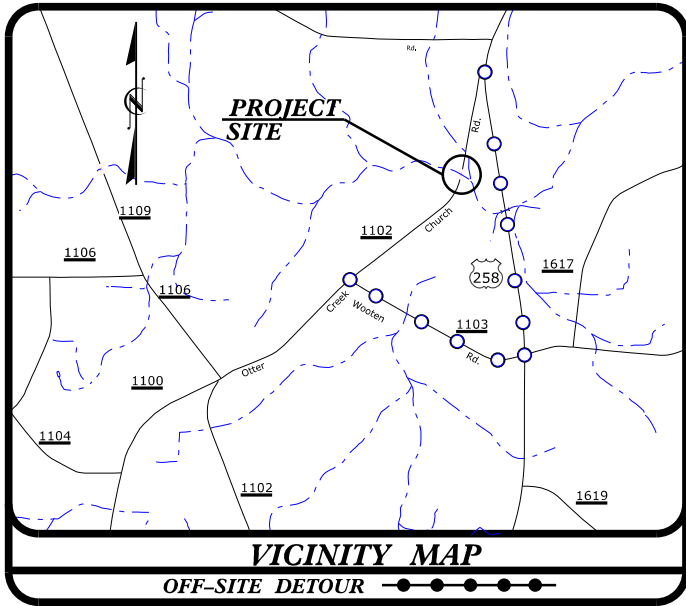
NOTES:  
Total Fill in Wetlands= 61 sqft.  
  
Interior Bent: HP 14x73 Steel Piles (14" Wide)

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
10/9/2017  
EDGECOMBE CO.  
SF-320113  
17BP.4.R.81  
SHEET 5 OF 5

PROJECT: 17BP.4.R.81

CONTRACT:

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**EDGECOMBE COUNTY**


LOCATION: BRIDGE NO. 113 OVER OTTER CREEK  
ON SR 1102 (OTTER CREEK CHURCH RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

BUFFER IMPACTS PERMIT

BUFFER DRAWING  
SHEET 1 OF 4

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.4.R.81	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.4.R.81		PE, UTIL., R/W CONST.	

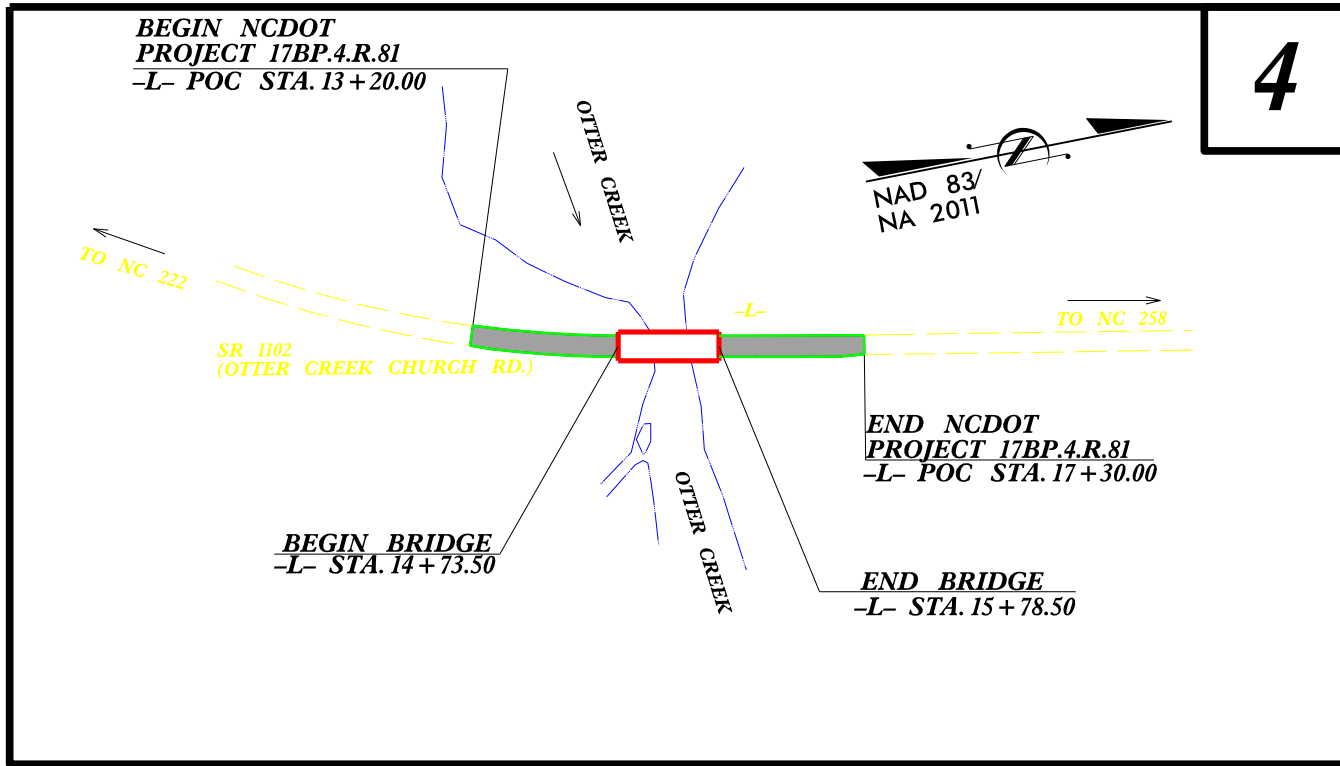


1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
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Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

BRIDGE #320113

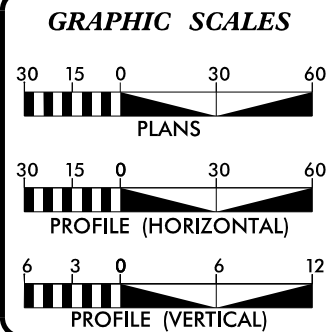
PRELIM. ROADWAY PLANS



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.  
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION  
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

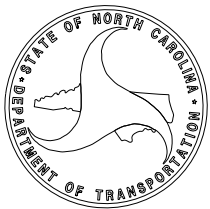


DESIGN DATA  
ADT 2017 = 210  
T = 6 % \*  
V = 55 MPH  
\* (TTST = 3% + DUAL = 3%)  
FUNC CLASS =  
RURAL LOCAL  
SUBREGIONAL TIER

PROJECT LENGTH	
LENGTH ROADWAY PROJECT 17BP.4.R.81 =	0.058 MILES
LENGTH STRUCTURE PROJECT 17BP.4.R.81 =	0.020 MILES
TOTAL LENGTH PROJECT 17BP.4.R.81 =	0.078 MILES
NCDOT CONTACT: COREY MCLAMB, PE DIVISION 4 BRIDGE PROGRAM MANAGER	


Prepared for: DIVISION OF HIGHWAYS DIVISION FOUR 509 Ward Boulevard, Wilson NC, 27895	
2012 STANDARD SPECIFICATIONS RIGHT OF WAY DATE:	EDWARD G. WETHERILL, PE PROJECT ENGINEER
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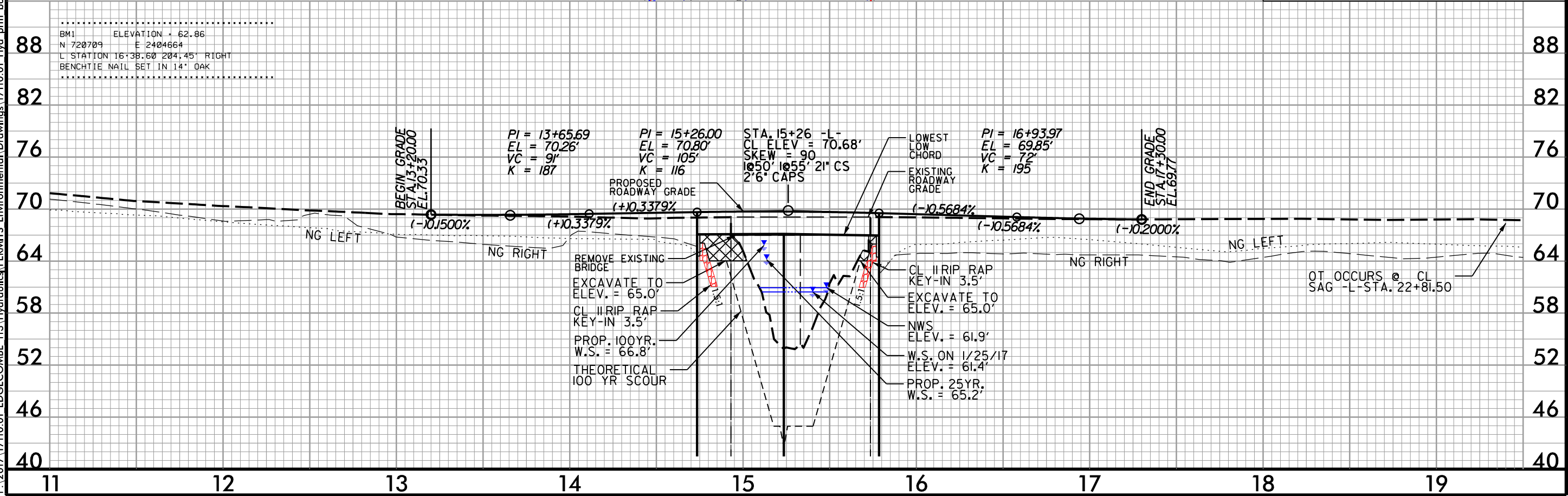
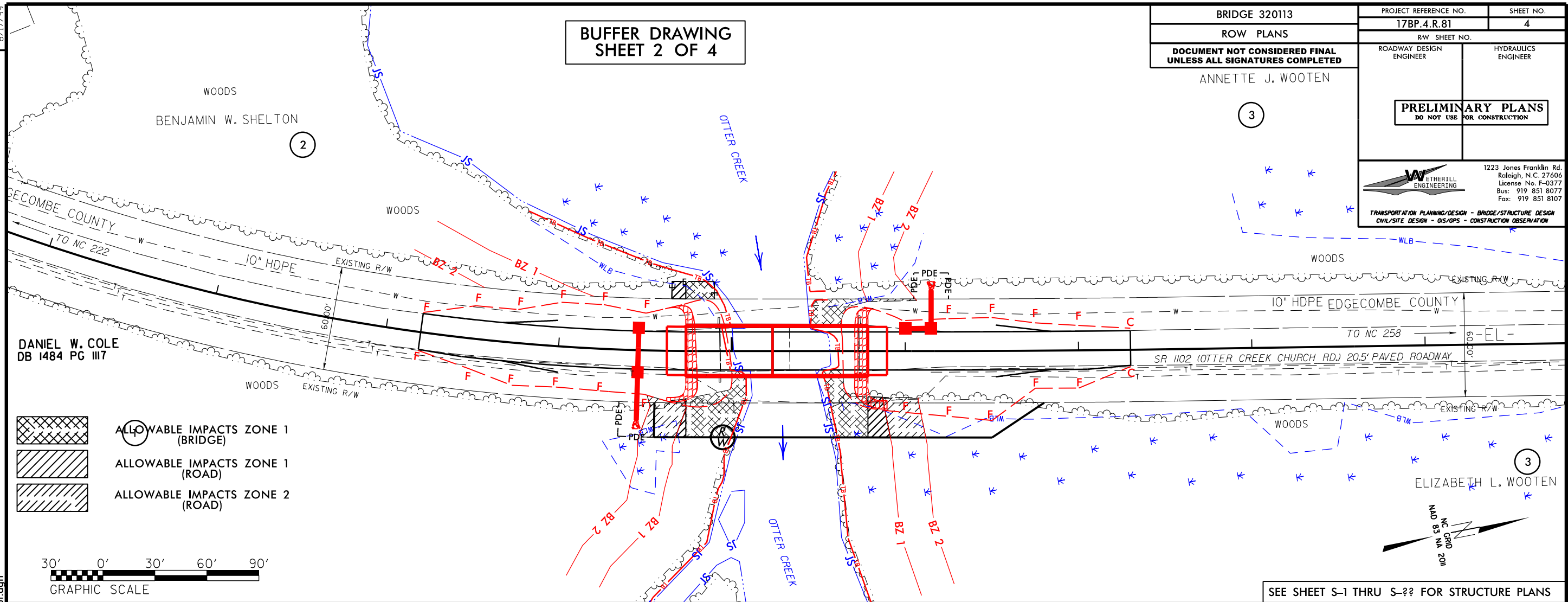
HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.





BUFFER DRAWING  
 SHEET 2 OF 4

BRIDGE 320113		PROJECT REFERENCE NO.	SHEET NO.
ROW PLANS		17BP.4.R.81	4
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		RW SHEET NO.	
ANNETTE J. WOOTEN		ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<div> <div>PRELIMINARY PLANS</div> <div>DO NOT USE FOR CONSTRUCTION</div> </div>			
		1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-0377 Bus: 919 851 8077 Fax: 919 851 8107	
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION			



10/4/2017  
 FBrooks  
 P:\2017\17110.01 Edgemcombe 113 Hydraulics\PERMITS Environmental\Drawings\17110.01 Hyd prn buf.dgn

## BUFFER IMPACTS SUMMARY

			IMPACT									BUFFER REPLACEMENT	
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )		
1	ROADWAY	14+49 TO 16+11	X			379	973	1352					
1	Bridge	14+73 TO 15+78		X		2002		2002					
<b>TOTAL:</b>						2381	973	3354	0	0	0	0	0

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

EDGECOMBE COUNTY

WBS-17BP.4.R.81 (SF-320113)

Brg. #113 over Otter Creek  
on SR 1102 (Otter Creek Church Rd)

SHEET 3 of 4

10/4/2017

## WETLANDS IN BUFFER IMPACTS SUMMARY

SITE NO.	STATION (FROM/TO)		WETLANDS IN BUFFERS	
			ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )
1	14+56 TO 16+11		518.4	347.5
	14+65 TO 14+90		118.4	15
<b>TOTAL:</b>			636.8	362.5

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

EDGECOMBE COUNTY  
WBS-17BP.4.R.81 (SF-320113)

10/4/2017  
SHEET 4 OF 4

Rev. Jan 2009



**LISTING OF MBE/WBE SUBCONTRACTORS**

Sheet \_\_\_\_\_ of \_\_\_\_\_

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				

\* The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.

\*\* Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price:

*If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.*

*If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.*

**LISTING OF MBE/WBE SUBCONTRACTORS**

Sheet \_\_\_\_\_ of \_\_\_\_\_

Firm Name and Address	Circle One	Item No.	Item Description	* Agreed upon Unit Price	** Dollar Volume of Item
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				
<b>Name</b>  Address	MBE  WBE				

**\*\* Dollar Volume of MBE Subcontractor    \$ \_\_\_\_\_**

**MBE Percentage of Total Contract Bid Price \_\_\_\_\_%**

**\*\* Dollar Volume of WBE Subcontractor    \$ \_\_\_\_\_**

**WBE Percentage of Total Contract Bid Price \_\_\_\_\_%**

**\*The Dollar Volume shown in this column shall be the Actual Price Agreed Upon by the Prime Contractor and the MBE/WBE subcontractor, and these prices will be used to determine the percentage of the MBE/WBE participation in the contract.**

**\*\* Dollar Volume of MBE/WBE Subcontractor Percentage of Total Contract Bid Price.**

**If firm is a Material Supplier Only, show Dollar Volume as 60% of Agreed Upon Amount from Letter of Intent.**

**If firm is a Manufacturer, show Dollar Volume as 100% of Agreed Upon Amount from Letter of Intent.**

County : Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
<b>ROADWAY ITEMS</b>						
0001	0000100000-N	800	MOBILIZATION	Lump Sum	L.S.	
0002	0000400000-N	801	CONSTRUCTION SURVEYING	Lump Sum	L.S.	
0003	0030000000-N	SP	TYPE II MODIFIED APPROACH FILL, STATION ***** STA. 15+26.00	Lump Sum	L.S.	
0004	0030000000-N	SP	TYPE II MODIFIED APPROACH FILL, STATION ***** STA. 15+66.00	Lump Sum	L.S.	
0005	0043000000-N	226	GRADING	Lump Sum	L.S.	
0006	0050000000-E	226	SUPPLEMENTARY CLEARING & GRUB- BING	2 ACR		
0007	0318000000-E	300	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES	30 TON		
0008	0320000000-E	300	FOUNDATION CONDITIONING GEO- TEXTILE	80 SY		
0009	0372000000-E	310	18" RC PIPE CULVERTS, CLASS III	40 LF		
0010	0448300000-E	310	18" RC PIPE CULVERTS, CLASS IV	24 LF		
0011	1220000000-E	545	INCIDENTAL STONE BASE	100 TON		
0012	1308000000-E	607	MILLING ASPHALT PAVEMENT, **** TO ***** 0" TO 3"	813 SY		
0013	1491000000-E	610	ASPHALT CONC BASE COURSE, TYPE B25.0C	195 TON		
0014	1519000000-E	610	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	550 TON		
0015	1575000000-E	620	ASPHALT BINDER FOR PLANT MIX	50 TON		
0016	2000000000-N	806	RIGHT-OF-WAY MARKERS	16 EA		
0017	2286000000-N	840	MASONRY DRAINAGE STRUCTURES	4 EA		

County : Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0018	2355000000-N	840	FRAME WITH GRATE, STD 840.29	4 EA		
0019	2556000000-E	846	SHOULDER BERM GUTTER	233 LF		
0020	2570000000-N	SP	MODIFIED CONCRETE FLUME	4 EA		
0021	3030000000-E	862	STEEL BEAM GUARDRAIL	106.25 LF		
0022	3150000000-N	862	ADDITIONAL GUARDRAIL POSTS	10 EA		
0023	3215000000-N	SP	GUARDRAIL ANCHOR UNITS, TYPE III	8 EA		
0024	3287000000-N	SP	GUARDRAIL END UNITS, TYPE TL-3	8 EA		
0025	3649000000-E	876	RIP RAP, CLASS B	30 TON		
0026	3656000000-E	876	GEOTEXTILE FOR DRAINAGE	445 SY		
0027	4400000000-E	1110	WORK ZONE SIGNS (STATIONARY)	853 SF		
0028	4410000000-E	1110	WORK ZONE SIGNS (BARRICADE MOUNTED)	188 SF		
0029	4445000000-E	1145	BARRICADES (TYPE III)	160 LF		
0030	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	1,740 LF		
0031	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	1,433 LF		
0032	5325000000-E	1510	*** WATER LINE 14"	375 LF		
0033	5325000000-E	1510	*** WATER LINE 14" HDPE	465 LF		
0034	5534000000-E	1515	*** VALVE 14"	2 EA		
0035	5534000000-E	1515	*** VALVE 14" Gate	1 EA		

County : Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0036	5798000000-E	1530	ABANDON *** UTILITY PIPE 14"	838 LF		
0037	5872600000-E	1550	DIRECTIONAL DRILLING OF *** 14" (HDPE DR9) Bridge 113	316 LF		
0038	5872600000-E	1550	DIRECTIONAL DRILLING OF *** 14" (HDPE DR9) Bridge 67	357 LF		
0039	6000000000-E	1605	TEMPORARY SILT FENCE	1,975 LF		
0040	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	140 TON		
0041	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	80 TON		
0042	6012000000-E	1610	SEDIMENT CONTROL STONE	115 TON		
0043	6015000000-E	1615	TEMPORARY MULCHING	1.5 ACR		
0044	6018000000-E	1620	SEED FOR TEMPORARY SEEDING	200 LB		
0045	6021000000-E	1620	FERTILIZER FOR TEMPORARY SEED- ING	1 TON		
0046	6024000000-E	1622	TEMPORARY SLOPE DRAINS	400 LF		
0047	6029000000-E	SP	SAFETY FENCE	1,200 LF		
0048	6030000000-E	1630	SILT EXCAVATION	100 CY		
0049	6036000000-E	1631	MATTING FOR EROSION CONTROL	2,800 SY		
0050	6037000000-E	SP	COIR FIBER MAT	450 SY		
0051	6042000000-E	1632	1/4" HARDWARE CLOTH	465 LF		
0052	6048000000-E	SP	FLOATING TURBIDITY CURTAIN	230 SY		
0053	6071013000-E	SP	WATTLE BARRIER	81 LF		
0054	6071020000-E	SP	POLYACRYLAMIDE (PAM)	5 LB		

County : Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0055	6084000000-E	1660	SEEDING & MULCHING	1 ACR		
0056	6087000000-E	1660	MOWING	1 ACR		
0057	6090000000-E	1661	SEED FOR REPAIR SEEDING	100 LB		
0058	6093000000-E	1661	FERTILIZER FOR REPAIR SEEDING	0.5 TON		
0059	6096000000-E	1662	SEED FOR SUPPLEMENTAL SEEDING	100 LB		
0060	6108000000-E	1665	FERTILIZER TOPDRESSING	1 TON		
0061	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	38 EA		
0062	6123000000-E	1670	REFORESTATION	0.2 ACR		
0063	6132000000-N	SP	GENERIC EROSION CONTROL ITEM Concrete Washout Structure	4 EA		
0064	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** -L- 15+26	Lump Sum	L.S.	
0065	8035000000-N	402	REMOVAL OF EXISTING STRUCTURE AT STATION ***** STA 15+66.00	Lump Sum	L.S.	
0066	8112730000-N	450	PDA TESTING	2 EA		
0067	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVA- TION AT STATION ***** -L- 15+26	Lump Sum	L.S.	
0068	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVA- TION AT STATION ***** STA 15+66.00	Lump Sum	L.S.	
0069	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	85.1 CY		
0070	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** -L- 15+26	Lump Sum	L.S.	
0071	8210000000-N	422	BRIDGE APPROACH SLABS, STATION ***** STA 15+66.00	Lump Sum	L.S.	

County : Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0072	8217000000-E	425	REINFORCING STEEL (BRIDGE)	14,373 LB		
0073	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES 12X53 Steel Piles	24 EA		
0074	8328200000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** STEEL PILES 14x73 Steel Piles	16 EA		
0075	8328400000-E	450	PILE DRIVING EQUIPMENT SETUP FOR *** GALVANIZED STEEL PILES 18X0.50	7 EA		
0076	8364000000-E	450	HP12X53 STEEL PILES	1,285 LF		
0077	8384000000-E	450	HP14X73 STEEL PILES	1,000 LF		
0078	8387000000-E	450	PP 18 X 0.50 GALVANIZED STEEL PILES	315 LF		
0079	8392000000-N	450	PIPE PILE PLATES	7 EA		
0080	8393000000-N	450	PILE REDRIVES	26 EA		
0081	8505000000-E	460	VERTICAL CONCRETE BARRIER RAIL	521.25 LF		
0082	8590000000-E	876	RIP RAP, CLASS ** CL II	295 TON		
0083	8622000000-E	876	GEOTEXTILE FOR DRAINAGE	270 SY		
0084	8657000000-N	430	ELASTOMERIC BEARINGS	Lump Sum	L.S.	
0085	8762000000-E	430	3'-0" X 1'-9" PRESTRESSED CONC CORED SLABS	2,755 LF		
0086	8860000000-N	SP	GENERIC STRUCTURE ITEM Asbestos assessment Bridge 113	Lump Sum	L.S.	

County :   Edgecombe

Line #	Item Number	Sec #	Description	Quantity	Unit Cost	Amount
0087	8860000000-N	SP	GENERIC STRUCTURE ITEM Asbestos Assessment Bridge 67	Lump Sum	L.S.	
<hr/>						
1108/May10/Q38964.8/D454769563000/E87			Total Amount Of Bid For Entire Project :			



**EXECUTION OF BID**

**NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**

**CORPORATION**

The prequalified bidder being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. §133-24* within the last three years, and that the prequalified bidder intends to do the work with his own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. §133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

---

Full name of Corporation

---

Address as Prequalified

Attest \_\_\_\_\_ By \_\_\_\_\_  
Secretary/Assistant Secretary President/Vice President/Assistant Vice President  
(Select appropriate title) (Select appropriate title)

---

Print or type Signer's name

---

Print or type Signer's name

**CORPORATE SEAL**

**NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN CERTIFICATION**

**PARTNERSHIP**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

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Full Name of  
Partnership

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Address as  
Prequalified

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Signature of Witness

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Signature of Partner

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Print or Type Signer's Name

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Print or Type Signer's Name

**NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION**

**LIMITED LIABILITY COMPANY**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

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Full Name of Firm

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Address as Prequalified

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Signature of Witness

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Signature of Member/Manager/Authorized Agent  
(*Select appropriate Title*)

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Print or Type Signer's Name

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Print or Type Signer's Name

**JOINT VENTURE (2) or (3)**

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

*If Corporation, affix Corporate Seal*

**NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION**

**INDIVIDUAL DOING BUSINESS UNDER A FIRM NAME**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Name of Prequalified Bidder

\_\_\_\_\_  
Individual Name

Trading and Doing Business As

\_\_\_\_\_  
Full name of Firm

\_\_\_\_\_  
Address as Prequalified

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Signature of Prequalified Bidder, Individual

\_\_\_\_\_  
Print or Type Signer's Name

\_\_\_\_\_  
Print or Type Signer's Name

**NON-COLLUSION AFFIDAVIT, DEBARMENT CERTIFICATION AND GIFT BAN  
CERTIFICATION**

**INDIVIDUAL DOING BUSINESS IN HIS OWN NAME**

The prequalified bidder, being duly sworn, solemnly swears (or affirms) that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with any bid or contract, that the prequalified bidder has not been convicted of violating *N.C.G.S. § 133-24* within the last three years, and that the prequalified bidder intends to do the work with its own bona fide employees or subcontractors and will not bid for the benefit of another contractor.

By submitting this non-collusion, debarment and gift ban certification, the Contractor is attesting his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

*N.C.G.S. § 133-32* and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

**SIGNATURE OF PREQUALIFIED BIDDER**

Name of Prequalified Bidder

\_\_\_\_\_  
Print or Type Name

\_\_\_\_\_  
Address as Prequalified

\_\_\_\_\_  
Signature of Prequalified Bidder, Individually

\_\_\_\_\_  
Print or type Signer's Name

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Print or type Signer's name

## **DEBARMENT CERTIFICATION OF PREQUALIFIED BIDDER**

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation that is file with the Department, or has become erroneous because of changed circumstances.
2. The terms *covered transaction*, *debarred*, *suspended*, *ineligible*, *lower tier covered transaction*, *participant*, *person*, *primary covered transaction*, *principal*, *proposal*, and *voluntarily excluded*, as used in this provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this provision. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

### DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion affidavit and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

☐

Check here if an explanation is attached to this certification.



**Execution of Contract**

**Contract No: DD00257**

**County: Edgecombe County**

ACCEPTED BY THE DEPARTMENT

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**Proposals Engineer**

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Date

EXECUTION OF CONTRACT AND BONDS  
APPROVED AS TO FORM:

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for **Division Engineer**

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Date