



!),.-./((0,'1(*(")2.#)#\$'3' 4'

\$629:62

E1&+&!*&+&!)&F&+*&!/0+-!.1*..!(&&%!.0!?)&!:0-9'&.&%!*0(4!.1&!8*=>E1&=!*+&!*&\$*&%
*+c&(%&%!.0!.1\$)!%0:#-&!.G

C> E1&)\$.!H%F\$)0+!;&!*+*.\$.0(!|0+-
A> E1&)\$.!<+090)!"!
J> E1&)\$.!30-9'&.\$.0(!|0+-

E1&)&)!\$(!<=:10'04=!*+&!9+\$.*+\$'=!\$&(.&+9+\$)=!\$).!\$)!?&..!0!?)&!.1\$(M\$(4!*?0#.!.
=0#+!.1&)\$.!1&!)&-&).&#?("#=0#!?&4\$(!\$.1*..!\$)@!*.!&*).!J!)&-&).&+)!?&/0+&!=0#!\$(&(%!.0!
4+*%#*.�#!8\$"!(&&%!/\$(%!?)#'.!=!-&-?&+!.0!)&+F&!*)!=0#+1&)\$.!%F\$)0+!*%#!1!
)0-&! *4+&&(. !0(!*!.09\$: @!?)&/0+&!=0#!:(!?)&4\$(!.0!80+M!0(!=0#+!.1\$).!=0#+!E1&)\$.!
H%F\$)0+!;&!*+*.\$.0(!|0+-!.0!.1&!20(0+)!30"&4&!*!.1&!&(%!0/.1&))&-&).&+!?)&/0+!&!.1&!
)&-&).&+!0/!=0#+1&)\$.!)?&4\$()>

E1&!20(0+)!30"&4&!%&/\$(&!.1&!20(0+)!E1&)\$.!RS9&+\$&(!\$0!)!!\$9&+\$&(:&!8\$.1!.80!
)&-&).&+T!80+M!0+!:+&%\$.>!!L(!.1&+!80+%)@S9&#!&P&!?)&4\$(!=0#+!10(0+!.1&)\$.!)0F&+!
.1&)#--&+!?)&/0+&!=0#+!)&(\$0+!=&*+>!!L(!/*!*(%!)9+\$4!0/!=0#+!)&(\$0+!=&*+@!=0#!*+&!&S9&..&
&(4*4&!\$(!.80!)&-&).&+!)0!.1&)\$.!)80+M!0+!*.0.*!0/U!:+&%\$.)>!!Q#--&+!80+M!8\$"!9+0?*?'=!
\$(F0'F&!+&F\$&8\$(4!.1&!\$.&+*%\$!&\$(M\$(4!*?0#.!.1&!.1&)\$.)!=0#!8\$"!9+090)&!.0!=0#+!*%F\$)0+=!
:0--\$.&!&*+'!=!\$(!.1&!/?"!)&-&).&+!0/!=0#+!)&(\$0+!=&*+>!!P0#+!.1&)\$.!)%F\$)0+!8\$"!9+0F\$%&!=0#
4#%\$*(:&!8\$.1!+&4*+%!.0!81*.!=0#!)10#'%!?)&!%0\$(!0F&+!.1&)#--&+>!!V0.&!.1*!.1&!)&
&S9&..\$.0(!))#-&!=0#!1*&!\$%&(.\$/&%!=0#+!.1&)\$.!)%F\$)0+!%#+\$(\$4!.1&!)&-\$8!.8#!!
?)&4\$(!.1&)\$.!)80+M!0+!:+&%\$.>

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/5;!<5!=5>!4<23?4@=!:!82747!:<A4756B!!

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-*..!#9!8\$.1 !

5\$\$"(6#78"9#\$+3!),.-./((0,'4;< 4;4<:=

!),.-./((0,'1(*(")2.#)#)&\$3' @

A .%++'('7('%*7'B.(C'+(%))DB*-\$'\$+\$Z&!0#+)&!/8\$.1!.1&!%&9*+.-&(.!/*:#.=!*(%!.1&\$+!
+&)*+1\$(&.+&)&0#!*(!%0!.1\$)!?=!.1\$(M\$(4!*?0#.1&!0#+)&)!.1&=!.&*:1@!0OM\$(4!*!.1&\$+!
9#?'\$.0(!+&:0+%)!0(!E*?(@!40\$(4!.0!.1&\$#!=9+0/\$&0(!.1&!56*))!708&"!8&?)\$.&@!*(%!
9&+#)\$(\$4!.1&!<)=:10'04=!%&9*+.-&(.!:0"0,#\$*>
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!

1..9)G[[888>#-'>&%#[IH2QQ[<]=:10'04=[&)&*+:1[;&9*+.-&(.*K30"0,#\$*>*)9\$

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W(:&!=0#!1*F&!\$%&(.//\$/&%!*:#.=!-&-?&+@!)&.!#9*(!*990\$(-.&(.!.0..*M!*&0#.!=0#+!\$(&.+&).!)
(!\$(&#+\$+&181&.1&+!0+!)1&!8\$\$&(4!*(%!F*\$*?'&!.0!*:.!*)!=0#+!.1&)!)!*%F\$)0+
W::*)\$0(**=@!/*:#.=!*&!*+&*%0!#?#)=!8\$.10.1&+&)&*+:1!9+0Y&@)0+!.1&=!-*=!9*(!.0!&!
0(K*&F&!/0+!*!)&-&).&L(!.10)&!*)&@!.1&=!8\$!"%&:'\$(&@&2#10#%!.\$.!"!&!*?'&!.0!&'9!
=0#!\$%&(.//!=!(0.1&+!9&+)0(!810!80#'%!?)&!*!04\$:"!10\$:&!.0!*)M!(&S.>!

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W(:&!=0#!1*F&!\$%&(.//\$/&%!*:#.=!-&-?&+!.0!?)&!=0#+!%F\$)0+@!=0#!8\$!"(&&%!.0!-&&.!
0#!.!)9&:\$//\$.X 81..09\$!=0#!8\$!"\$(F&).\$4*.&!*(*%!.1\$B0#!8\$!"*)0!(&&%!.0!\$%&(.//!=.80!
0.1&+!/*:#.=!810!.*(!)&+F&!)!0--\$..&&!-&-?&+!)!0+!=0#+!.1&)\$)>

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F%*!E'%)D'%*!%7GH*-+'?%-H/+,'C#C>#"'+('>#'C,'+.#)I)'%76I)(="J"
%\$):\$9'\$(B#0#!=0#'%@!#?.!\$(!<)=:10'04=!.1&+&!*+&)9&:\$*!0()\$%&+*.\$0()
60)..1&)&!)\$(F0'F&!2#-*(!Q#?Y&..)!&)&*+:1@!81\$:1!+&,#\$+&)!&.1\$:*!
+&F\$&8!?=!.1\$%))'M(B#/!E*)+I+H+I(*%/'N#6I#B'O(%"778EN0Q=0#!
:*(!.?&4\$(!.0!+&:#.!9&09'&!/0+!)!=0%#&E1&L\!]!+&,#\$+&)!.1&!
<+\$(:\$9'*!L(F&).\$4*.0+!N.1!&!<L@!0+!.1&!9&+)0(!+&)90()\$?'&!/0+!.1&!).#%!=!
?&\$(4!9+090)&%O!&*!/*:#.=!0+!1*F&!0.1&+8\$)&!?&&(!4+*(.&%!<L!
)..#)>!"+*(\$.4!<L!).#.!)0!%*Y#(:!-&-?&+)0!/.1&!/*:#.=!\$!)*(!
&S:&9.\$0(*!\$+:#-).*(:@!)0!=0#!)10#'%!(0.!.0#(!.0!?)&\$(4!*?'&!.0!
)&:#+&0(&!.0!0#+!%Y#(:!/*:#.=!-&-?&+)!.0!)&+F&!)!=0#+!.1&)!)!%dF\$)0+
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208&F&+@!*%Y#(:!/*:#.=!*(!:&+.#)(&+F&!0(!.1&)!)!0--\$..&&Q.\$@"!\$
\$)!80+.1!+&-&-?&+\$(!.1*..1&)&!\$(%\$F\$%#*)!\$%&19(*!=/0+!.1&!*))&!
.1&=!.&*:1!*(%!(0.!.0+!*%\$.\$.0(*!0--\$.-&().!)*.!567 !N'\$M&!.1&)!)!
:0--\$..&&)O>L(!/*..@!-*(!*%Y#(:!/*:#.=!-&-?&+)1*F&!0.1&+!Y0?)!0+!
.&*:1!*.!.0.1&+!#(\$F&+\$.\$)&>!Q0@!%0!(0.!.*M&!.!9&+)0(*!=!\$!.1&=!)\$-9'=!%0!
(0.!1*F&!*F*\$!*\$!\$!

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`1*.!/0"08!*+&!?0.1!+&,\$+&-&(.!)!*(%!)#44&).\$0()@!/\$+).!\$(!4&(&+*!*(%!.1&(!?=!)&:5\$0!>
?82747!:<A4756!;4JJ!965A4<2!K>4<:3H2!O2=53<!;8:?!47!:64??23!8262C!!'8262!P:

5\$\$"(6#78"9#\$+3'!),.-./((0,:4;< 4;4<:='

!),.-./((0,'1(*(")2.#)*)&\$3' U

- ! P0#!)10#'%!%&:+\$?&!1&!\$.&+*.#+&!\$((%&))\$(:&!1&)&!*&&!.#%\$&)!*'+&*%=!%0(&!*(%!:0(''#)\$0()!*'+&*%=!+&*:1&p%
- ! P0#+'\$.&+*.#+&!\$&F\$0#'%!?&!0+4*(\$Z&%!.1&-*.\$.:\$*">@!+*.1&+!.1*(!Y#).!.*'M\$(4!*?0#.!Q.%#=!C@!Q.%#=!A@!&.:>!L&

!),.-./((0,'1(*(")2.#)#)&\$3' X

:0-9'&.&!:\$.*.\$0()>!0+!&S*-9'&@!\$/!=0#!8*(.!*!9+090+.\$.0(*'!+&9+&)&(. *.\$.0(!/0+!4&(%&+!*:+0))!%\$//&+&(.!-*Y0+)@!\$/(%!0#.!.81*.!.1*.!.9+090+.\$.0(!\$)!/0-#&-\$(\$/+0-!W\>!

! <+0F\$%&!*!.*+4&..!V!*(%!.'&*+'=!\$%&(.\$/!=0#+!)*-9'\$ (4!#(\$.)!\$/!.1&=!*+&!0.1&+!.1*(!\$(%\$F\$%#*)!N(&\$41?0+100%)@!/0+!&S*-9'&O>!e#).\$/=>

! ;&:+\$?&!=0#+!-&.10%!0!/+&:+#\$.-&(%!108!9*+.\$.:\$9*(.)!8\$"!?80-9&()*.&%!/0+!.1&+\$!..\$-&!N&>4>!&#+\$%\$.@!-0(&=@&.:>O

o \&-&-?&+!.1*.!.1&!20(0+)!30"&4&!1*)!0-&!/#(%\$!(4!*F*\$'*?'&!.0!)#990+.!)&(\$0+!.1&)>!W(&!*99+09+\$*.&#!)&!0/!)#:1!/#(%!)\$.!0!9+0F\$%&!\$(:&(.F&)!/0+!9*+.\$.:\$9*.\$.0(>

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! L!/=0#!*+&#!)\$(\$4!&S\$).\$(4!\$().+ #-&().G

^ <+0\$%&!:0-9'&.&!:\$.*.\$0()!/0+!.&.)!0+!,#&).\$.0((*\$+&)!.1*.!=0#!*+&#!)\$(\$4!/+0-!Y0#+(*'!*+.\$.:'&)!0+!0.1&+!9#?'\$)1&%!)0#:+:&)>

^ ;&:+\$?&\$(!=0#+!08(!80+%'8!*.!&*:1!.&.)!0+!,#&).\$.0((*\$+&!)!)%&)\$.4(&%!.0!%0!*(%!81*.!+&)90()&!09.\$0()!\$.!.!\$(:#%\$)&>4>@!7\$1\$M&@!%Y&..\$F&!.1&:M'\$.).)@!&.:>O>

^ \&90+.!(0+-)!*([0+!9)=:10-&.+\$!:!%* *!0(!.&.)!0+!-&*)#+&)!=0#!9'*(!.0!#)&!N.&!)&.&..!+&'\$*?\$\$.=!:0&/\$.:\$&().@!/0+!&S*-9'&O>

! O!\$D#0#/0+!9#00(\$(&!.0&-.!).0!:+&*.&!.&.)!0+!*))&)-&N*(%!=0#!)10#%'!%0!)0!0('!=!\$/!=0#*(%!=0#+!.1&)!)%&F\$)0+!*4+&&!.1*.!=0#!(&&%!.0a!.1&!9+&/&+&(&!)!.0K#)&!*'+&%=&.).*?'\$)1&%!\$().+ #-&().G

^ L(%\$:.&!81*.!.!0().+*\$().!=0#!*+&!9#.!.(\$4!0(!.1&!).\$.#'\$!)0!.1*.!&S.+(&0#)!/*:0+!*&!.0(.+0'"%&N&>4>@!80+%'\$).)!/0+!F&+?*!'&*+(\$4!\$)0#%'!%&%+ /+&#&(:!=0!#)*4&!0+!.=9&!0!/80+!%O

^ L(%\$:.&!08!8\$"!=0#&F*'#*.&!1&!9)=:10-&.+\$!:!9+09&+.\$.&)N+&'\$*?\$\$.=!*(%!F*'\$%\$.=O 0.24 319.162 240 cm BT /P <</MCID 80>>BDC 50 0 0 50 [-0.5()] TJ [-0.4]

5\$\$"(6#78"9#\$+3!"),-./((0,'4;< 4;4<:='

!),.-./((0,'1(*(")2.#)#\$'3' Y

- ! E1&%*.!*!90\$(.N)@!1!-&*)#+&!8\$!"!9+0F\$%&)10#%'!?&!-=89&:\$/\$&%
!"\$.,10\$, !
- ! H%&!)!.1&(&&%!/0+\$(/0+-&%!:0())&(.>
- ! I0+!&S9&+\$-&(.!*!%&)4()G
- ^ Q9&:\$/=!81&.1&+!=0#!*+&!)\$!&!8&&(K#?Y&..)@\$.1\$K#?Y&..)@!0+!-\$S&%
%&)\$.4!1!.1&+&!*+&!.#.\$.9'&!/..0+)@!\$(%\$:.&!81\$:-1(\$9&!*.&%!?)&.8&&(K
)#?Y&..)!(%!81\$:1!*+&!(#9#'*.&%!8\$.1\$K#?Y&..)†
- ^ L!/=0#!*+&!9+090)\$(!4!*(!&S9&+\$-&(.!8\$.1!-0+&!.1*(!0(&!4+0#9@!?)&!.&*&+!81\$:1!
9&..)!0!.1&!9+0:&%#+&)!F+=!?.&8&&(!4+0#9)!*(%!81\$:1!*+&!.1&!)*-!0+!
&F&+=0(&!N&>4>@!bH"!9*+.:\$:\$9*(.)!8\$"!?)&!.&9*+.:\$:\$9*(.)!8\$"!
.1&(c!*(%!1*'!8\$"!c!!\$(*"!=!*"!9*+.:\$:\$9*(.)!8\$"!?)M&%!.0c>dO>
- ^ I0+!4+0#9)!%&)4()@!)9&:\$/=!108!=0#!8\$"!:+&*.&!.1&!4+0#9)!N81\$:1!.=9\$:*!=
-&*()!0-&!0/+!0/!+*(%0-!*))\$4(-&(.O> !
- ^]&!)9&:\$/\$!:!*?0#.!.!*"!*)9&..)!0/!=0#+!&S9&+\$-&(.>!!E1&)&!-*!=!\$(:#%&!.&-!)#:#1!
!)&(4.1!0/!&S90)#+&!9&+\$0%@!#-?&+!0/!.+\$)!0+!?'0:M)!0/!).\$-#'\$@!*(%!-*((&+!0/!
+&)90()&>!P0#+!%F\$)0+!8\$"!4#\$%&!=0#!\$(!\$%&(.\$/=\$(4!.1&!.90+.*(.!)9&..)!0+!
=0#+!9*+.:\$:#'*!+
- ^ ;&):+\$?&!=!:0#(.&+?*!*(:\$(!4!=0#+!%&)4(!-*!=!+&,#\$!&!/+&,#&(.='!.1\$(M!0/!
:0#(.&+?*!*(:\$(!4!/0+!0+%&+!0/!9+&)&(.*.\$.9!(\$@!-*=!*)0!?)&!.+\$0!(\$@!#1!*)!81&(!&S*-\$(\$(!4!+\$.(\$4)!0/!\$(*(.!
.+\$.)!/+0-!F\$%&0!+&:0+%\$(\$4)!81&(.1&!

!),-.(/(0,'1(*(")2.#)*)&\$3' V

=0#+!9+090)*',@I%"%IC'I)+('B"I+#

5\$\$"(6#78"9#\$+3'!),-.(/(0,:4;< 4;4<:='

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!),-.(/(0,'1(*(")2.#)#+\$3' :: '

!),-./((0,'1(*(")2.#)#+'\$3' :4'

M&Y!%\$\$0M.%'M*)!%)"!%\$\$&*Z%0

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*3H2!=5>6!965957:J!8:7!O223!:9965A2<!O!=5>6!: < A4756!63~~H5PP4??22!P2PO267Q!=5>!~~
:62!62:<!=?5!H53<>H?!?82!6272:6H8!?8:?!;4JJ!627>J?!43!=5>6!?82747Q!;84H8!=5>!;4JJ!962723
:7!:!;64??23!<5H>P23?!.3:3!56:JQ!9>O~~1962723?:?453!CKC02747!<2@237951?26!~~
962723??:?453!?:!82!:33>:J!N(:77!05;2,3!<23?!.&272:6H8!,=P9574QP2?OC

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\&-&-?&+!.1*.! ,(H'-%**(+\$\$(-##7BI+'%*'.HC%*)H>G#-+)#"#%X-&F&(!\$/!=0#!?&'\$&F&!\$.!
.0!?.&F&+=!-\$(\$-*!+\$)MBI+(H+'?!)+'(>+%I*I*0'%'\$\$(6%/?"(C'+.#EN\$)(0.!#9!.0!
+&)&*+:1&+)!.0!%&:\$%&!81&.1&+!).#%\$&*!+\$)M!*(%!.1&+&/0&&&-9.!/+0-!/#+.1&+!L\!]!
+&F\$&B&)&*+:1&+#!!.! /\$+).%&:+\$?&!.1&-!*(%!*99'0!.1&!L\!]!0+!&S&-9!.!.#.*)>W('!.1&
L\!]!:(!*8*+%.1*.!).#.*)>! P0#!-*=!?.!.*"&%!#90(!.0!1&9!9+&9*+&!.1&!L\!]!*99'\$:.\$.0(!8\$.1!
=0#+!%F\$)0+@!?.!#99'8!*.\$.0(!\$)!#'.\$.-*.&='!.1&+&)90()\$?\$.!.=!0/.1&!/*:#!.-&-?&+>

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!),-.(/(0,'1(*(")2.#)#+\$3'

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%9923<4TC

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C> E1&)\$.!&!9*4&/0+!*.
A> E1&)\$.!*%F\$)0+!%&:'*+*.\$.0(!/0+-
J> 20(0+)!.1&)\$.)[9+0Y&:.!9+090)*'!/0+-
p> 20(0+)!.1&)\$.)!::0-9'&..\$.0(!/0+-!

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Digitized by srujanika@gmail.com

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E1\$)!/0+-!*(%!=0#+!9+090)*'!-#).!?'&!.#+(&%!\$(!.0!.1&!20(0+)!W//\$:&!=!.1&!%*.&!)9&:\$/\$&%!=!.1&!
20(0+)!30"&4&!.1&!)&-&).&+!=0#!).*+.!=0#8)&*+:1>

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Q.%&(.!V*-&G!mmL;!V#-?&+G!mmmmmmmmmmmmmm
RS9&:&%!Q&-&).&+!*(%!P&*+!0!"+*%#*. \$0(Gmm
70:!*!H%%+&))Gmm
<10(&!V#-?&+Gmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm!R-*'\$Gmmmmmmmmmmmmrhmhmmmmmmmmmmmmmm
6*Y0+N)OG(+)] TJ [-2(I()) TJ [-5 TJ [5(1)]!H7o 0.24 0 0 0.2443 0 0 43 0 0 Tm 0.0 0 Tm 0.0 0 Tm 0.0 0 Tm@<-1(m)]

!/#%)#'- (C\$/#+#'+.I)'? ("C'%*7"#+H"'|+'+'(.#.1(*)'F(/#0#'^??I-'#('S(H+.'F%C\$H)&'^M#%"', '@<<3
E?' ,(H'.%6#'%' , 'WH#)+I(*)'-(*+%-+'H)%+'VXY3V@R34XVX%#C%d(I')HC/3#7H

/53567!82747!.5P9J2?453!+56P

30#+)&!V*-&!	30#+)&!V#-?&+!Nhh>hhh>hhhO	"*%&
!	!	!
!	!	!

L@!mmmmmmmmmmmmmm@hr&rn\$y=rlm!.1\$)!).#%&(.!1*)!)*.\$//*..0+\$'=!:0-9'&.&%!1\$)[1&+!
10(+)!9+0Y&.!*(%!1*)!4\$F&(!*!9#?'\$!:!9+&)&(.*.\$.0(!!0(.1&%*.&!\$).&%!*?0F&>

30--\$..&&!6&-?&+N)O!)\$4(*.#+&N)OG

<'&*)&!:0-9'&.&!*(%!+&.#+(!.1\$)!/0+-@!*'0(4!8\$.1!*!:09!=!0/+!0&!)\$)@!.0!.1&!20(030!&4&W//\$:&!NQ0#.18\$:M!J!W=!?82!23<!5@!&2:<43K!"=C

!/#%#'-C\$/#/#+'.I)?("C'%"7#"#+H**'I+'+'+.#'1(*(")F(/#0#'^??I-#(*'S(H+.F%C\$H)&'^M#%", '@<<3
E?', (H.%6#%*, 'WH#)+I(*)'-(*%+-+H)%'+VXY3V@R34XVX%#C%(V)H|HC/3#7H