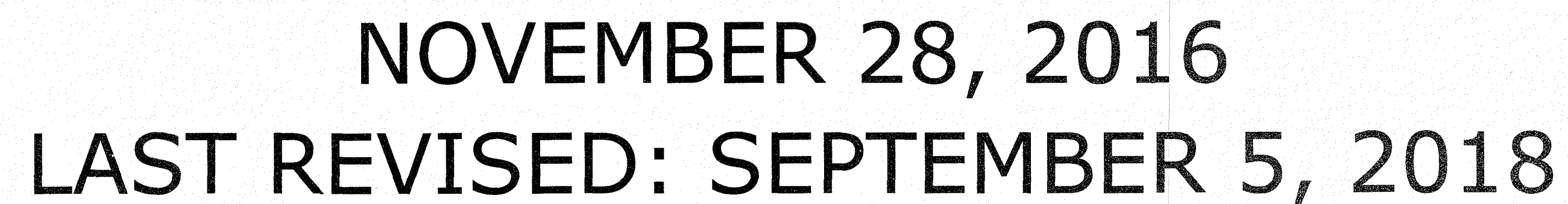


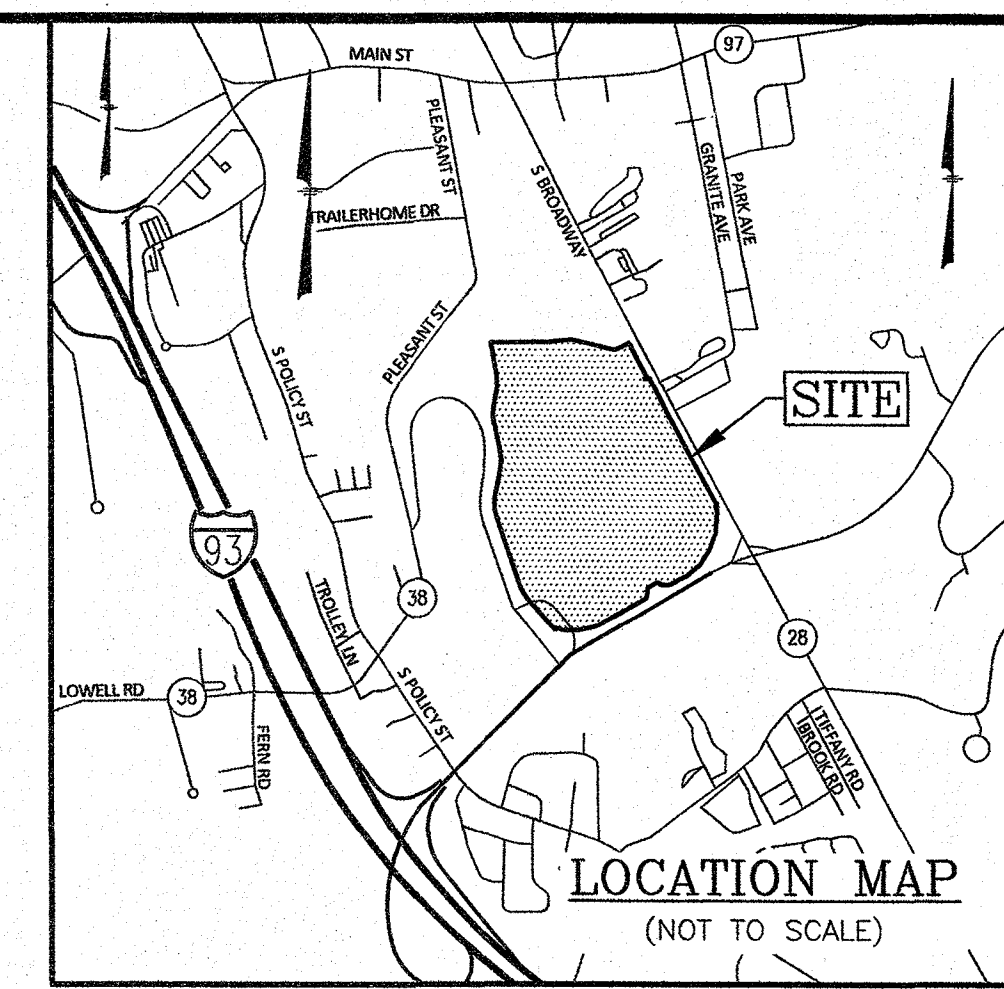
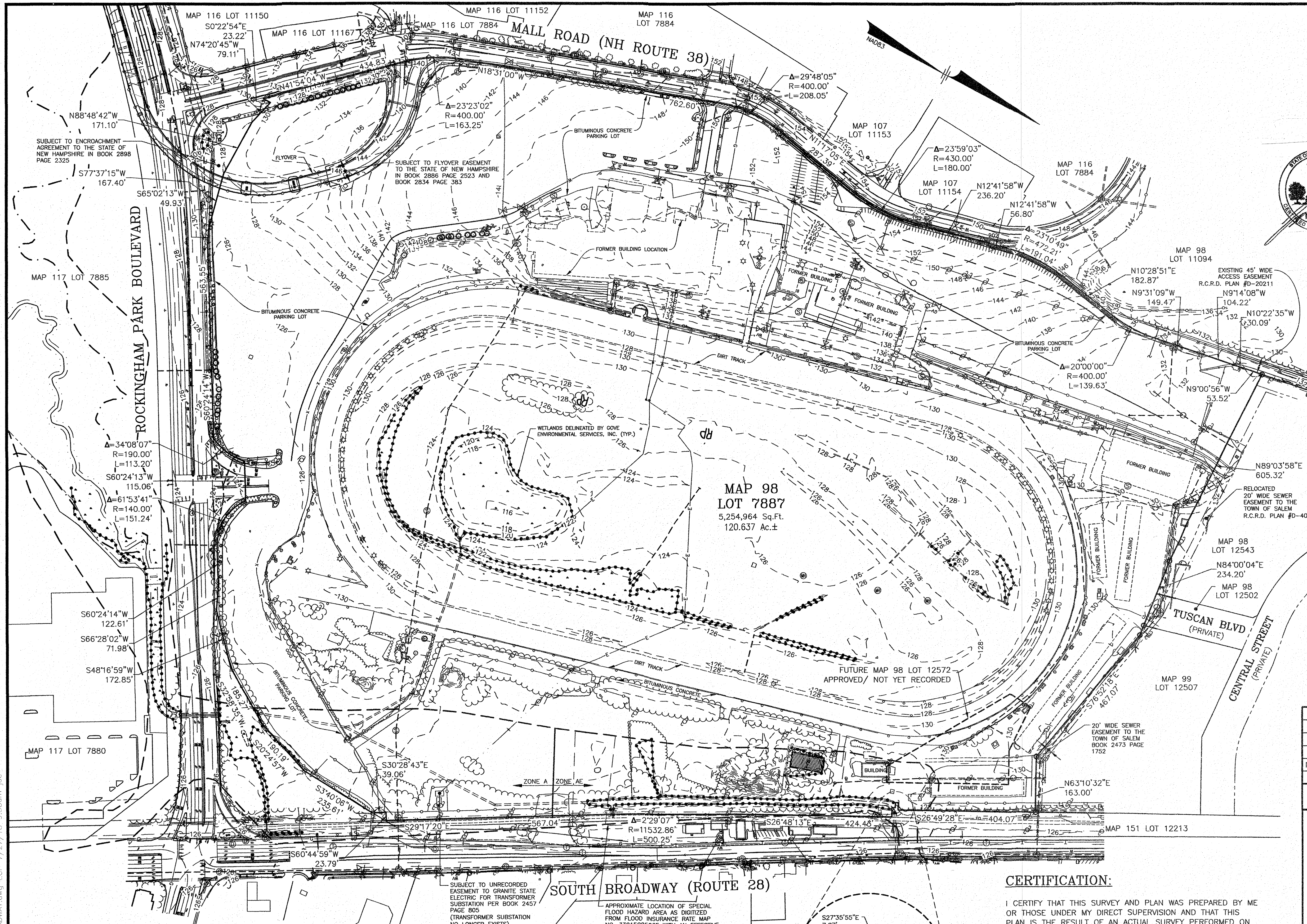
# SALEM, NEW HAMPSHIRE



9.5	
9.5	SI

98-7887



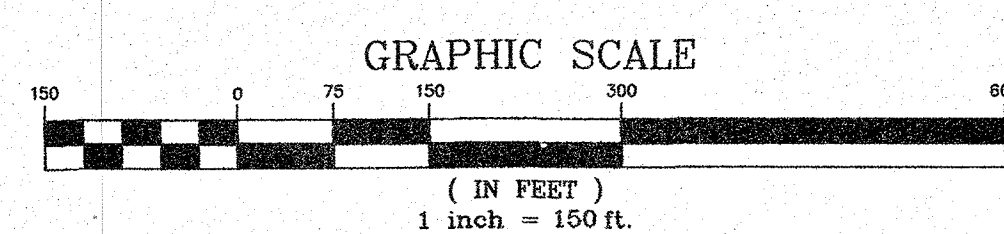


- NOTES:**
- EXISTING FEATURES SHOWN HEREON ARE THE RESULT OF A FIELD SURVEY PERFORMED BY THIS OFFICE BETWEEN OCTOBER 2014 & JUNE 2017 AND SUPPLEMENTED WITH AERIAL PHOTOGRAPHY BY EASTERN TOPOGRAPHICS. PHOTO DATE: 9/26/14, COMPILED: 10/14/14. THIS INFORMATION HAS BEEN MODIFIED TO APPROXIMATE THE CURRENT CONDITIONS BASED ON THE ONGOING DEMOLITION WORK ON THE PROPERTY. THIS PLAN DOES NOT SHOW THE RECENTLY CONSTRUCTED FLOODPLAIN IMPROVEMENTS ON LOT 7887.
  - EXAMINATION OF THE FLOOD INSURANCE RATE MAP FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE, MAP NUMBER 33015C0563E, EFFECTIVE DATE: MAY 17, 2005, INDICATES THAT PORTIONS OF THE SUBJECT PARCEL ARE LOCATED WITHIN A ZONE AE FLOOD AREA (BASE FLOOD ELEVATIONS DETERMINED), AND ZONE A FLOOD HAZARD AREA (BASE FLOOD ELEVATION NOT DETERMINED).
  - BENCHMARK: RM 15 - DISK STAMPED "F-2" LOCATED IN THE WEST END OF THE NORTH ABUTMENT OF THE BOSTON & MAINE RAILROAD BRIDGE OVER POLICY BROOK NEAR ROCKINGHAM PARK. ELEVATION = 124.12 (NGVD29).
- PLAN REFERENCES:**
- RIGHT OF WAY AND TRACK MAP, MANCHESTER & LAWRENCE R.R. OPERATED BY THE BOSTON & MAINE R.R. STATION 1671+80 TO STATION 1724+60 SCALE: 1"=100'; DATED: JUNE 30, 1914 (V.10/3).
  - RIGHT OF WAY AND TRACK MAP, MANCHESTER & LAWRENCE R.R. OPERATED BY THE BOSTON & MAINE R.R. STATION 1724+60 TO STATION 1777+40 SCALE: 1"=100'; DATED: JUNE 30, 1914 (V.10/4).
  - ROCKINGHAM COUNTY REGISTRY OF DEEDS (R.C.R.D.) PLAN IN BOOK 1456 PAGE 21.
  - R.C.R.D. PLAN #608.
  - R.C.R.D. PLAN #1086.
  - R.C.R.D. PLAN #D-12055.
  - R.C.R.D. PLAN #D-16856.
  - R.C.R.D. PLAN #D-19425.
  - R.C.R.D. PLAN #D-20211.
  - ALTA/ACSM LAND TITLE SURVEY, BOUNDARY & EXISTING CONDITIONS PLAN OF ROCKINGHAM RACETRACK IN ROCKINGHAM COUNTY ON MAIN ST., MALL RD., RTE. 38 & ROCKINGHAM BLVD., SALEM, N.H.; CLIENT: ROCKINGHAM VENTURE, INC.; SCALE: 1"=100'; DATE: MAY, 1994 BY KIMBALL CHASE CO.
  - R.C.R.D. PLAN #D-38619.
  - SUBDIVISION PLAN FOR OMJ REALTY, 11 CENTRAL STREET, SALEM, NEW HAMPSHIRE, SALEM PROPERTY MAP 98, LOT 12502, OWNER OF RECORD: OMJ REALTY, PREPARED BY MHF DESIGN CONSULTANTS, INC., DATE: JUNE 23, 2015. NOT RECORDED.
  - R.C.R.D. PLAN #D-38673.
  - R.C.R.D. PLAN #D-39140.
  - R.C.R.D. PLAN #D-39172.
  - R.C.R.D. PLAN #D-39763.
  - R.C.R.D. PLAN #D-40059.

**CERTIFICATION:**

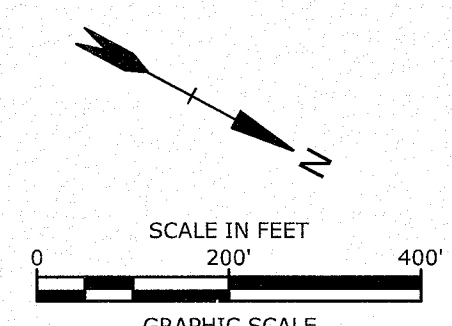
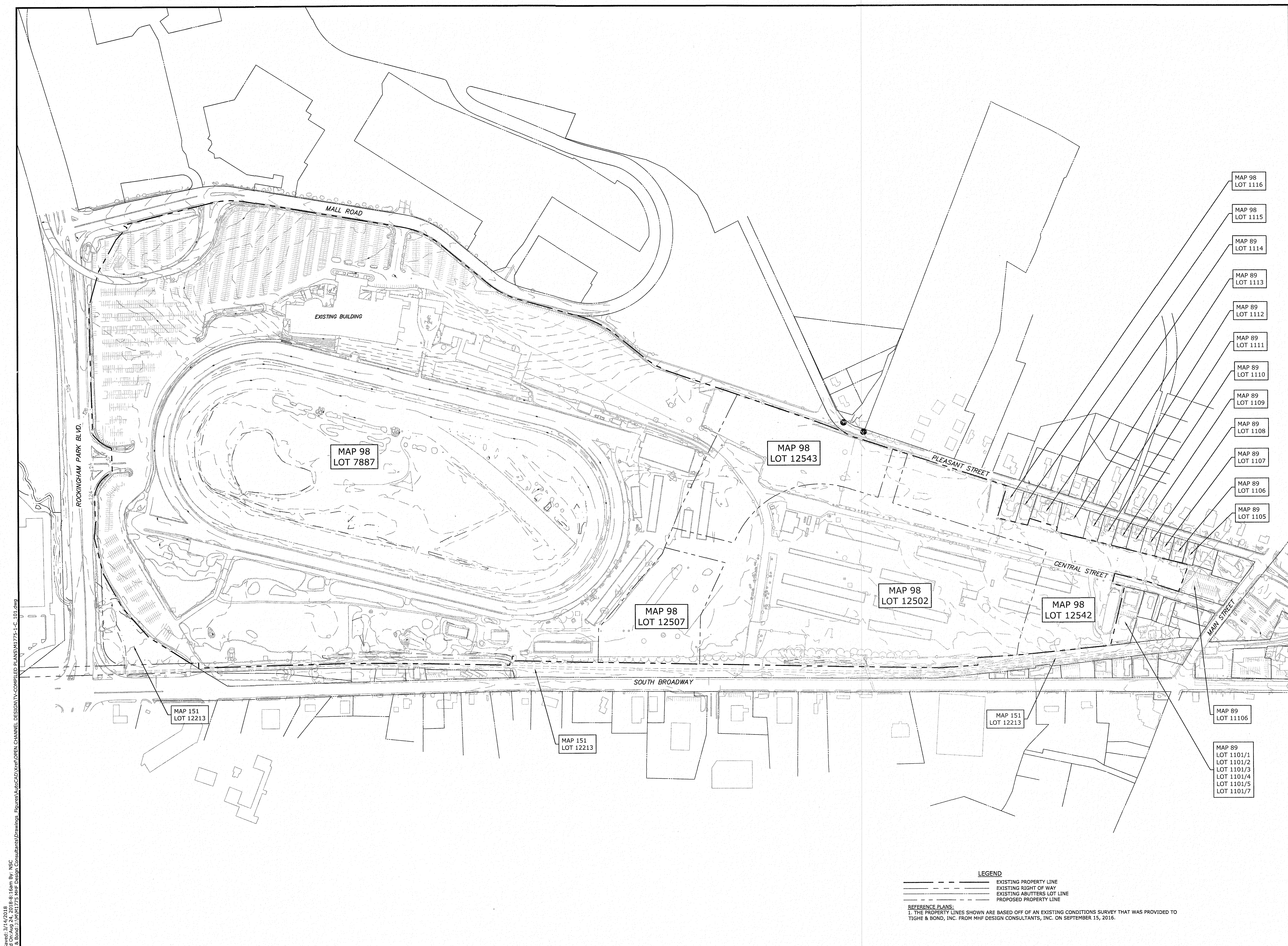
I CERTIFY THAT THIS SURVEY AND PLAN WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAN IS THE RESULT OF AN ACTUAL SURVEY PERFORMED ON THE GROUND BETWEEN OCTOBER 2014 AND JUNE 2017 AND HAS AN ERROR OF CLOSURE OF NOT MORE THAN ONE PART IN TEN THOUSAND.

JOEL A. CONNOLLY, LLS 997  
DATE: 7/27/2018



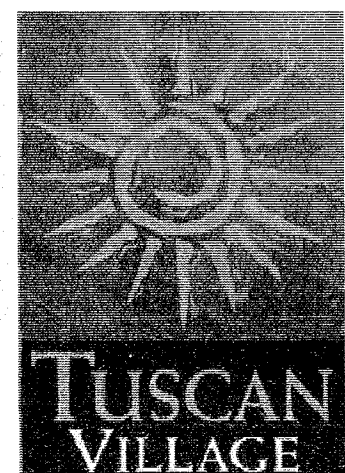
SGC	SLOPED GRANITE CURB	G	GAS LINE	UP	UTILITY POLE	EM	ELECTRIC MANHOLE
VGC	VERTICAL GRANITE CURB	T	UNDERGROUND TELEPHONE	GW	GUY WIRE	WM	WATER MANHOLE
SCC	SLOPED CONCRETE CURB	W	WATER LINE	OW	OVERHEAD WIRE	M	MANHOLE
VCC	VERTICAL CONCRETE CURB	E	UNDERGROUND ELECTRIC	TL	TREELINE	GV	GAS VALVE
CCB	CAPE COD BERM	CL	CHAIN LINK FENCE	PB	PULL BOX	WV	WATER VALVE
DSLY	DOUBLE SOLID LINE YELLOW	SF	STOCKADE FENCE	SE	SPOT ELEVATION	WSO	WATER SHUT OFF
DDLY	DOUBLE DASHED LINE YELLOW	PR	POST & RAIL FENCE	DM	DRAIN MANHOLE	FH	FIRE HYDRANT
SDLY	SINGLE SOLID LINE YELLOW	X	WIRE FENCE	CB	CATCH BASIN	B	BOLLARD
SSLY	SINGLE DASHED LINE YELLOW	90	CONTOUR ELEVATION	SM	SEWER MANHOLE	GM	GAS METER
SSW	SINGLE SOLID LINE WHITE	T	TREE	TM	TELEPHONE MANHOLE	EM	ELECTRIC METER
SDW	SINGLE DASHED LINE WHITE	*	LIGHT POLE			MW	MONITORING WELL





**PERMIT DRAWINGS**

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**



**OMJ REALTY, LLC**  
Salem, New Hampshire

**VERIFY SCALE**  
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0 1 INCH  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

3	8/24/2018	REV. PER NHDOT COMMENTS
2	3/12/2018	REV. PER TOWN COMMENTS
1	11/17/2017	ISSUED FOR PRICING
MARK	DATE	DESCRIPTION
PROJECT NO: M-1775-1		
DATE: 11/28/2016		
FILE: M1775-1-C_101.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		

**ABUTTERS VICINITY PLAN**

SCALE: AS SHOWN

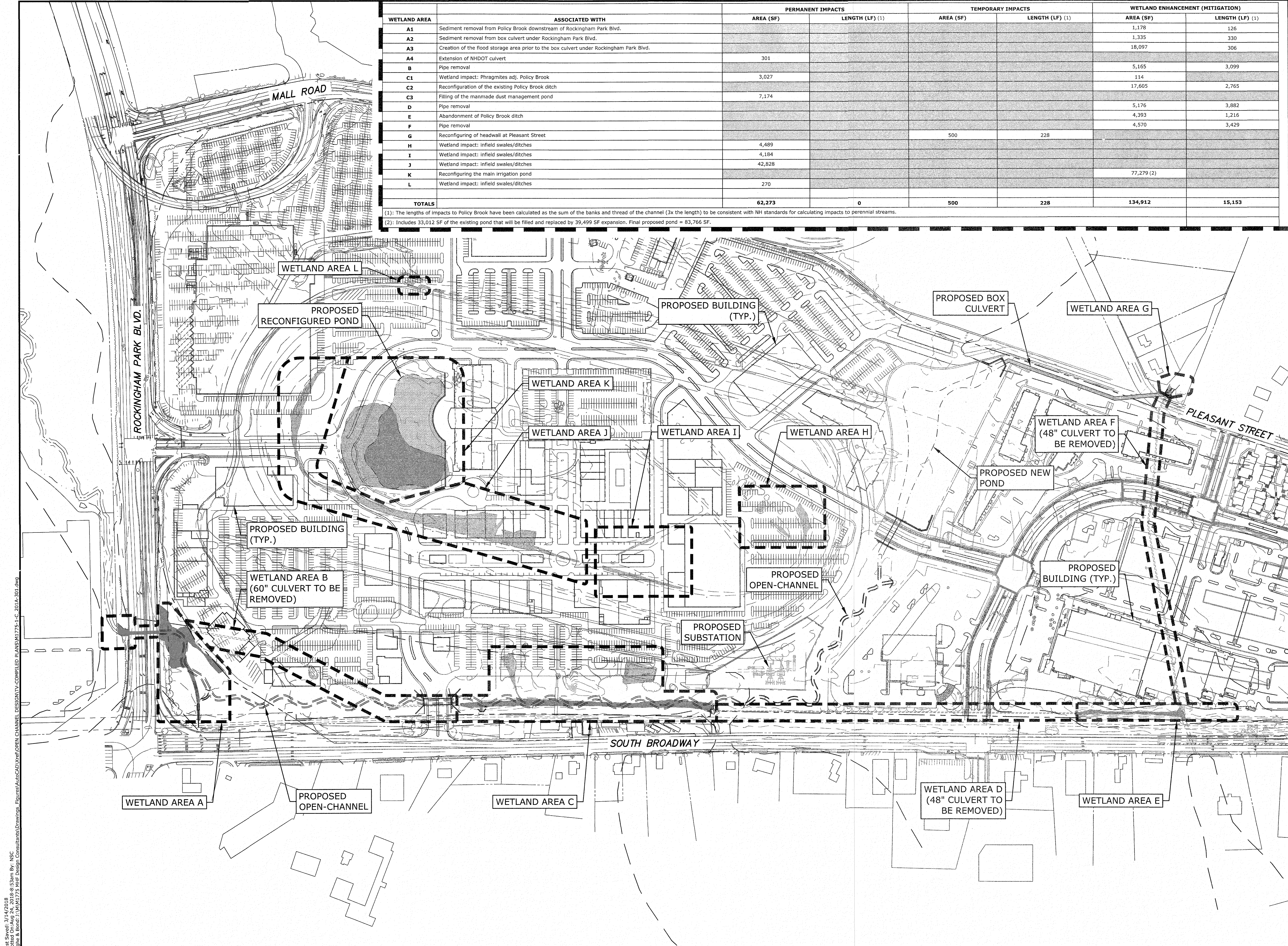
**C.101**

Lot Saved: 3/14/2018 8:59:16am By: NSC  
Tighe & Bond; M1775 MHF Design Consultants\Drawings Figures\AutoCAD\Xref\OPEN CHANNEL DESIGN\TM1775-1-C\_101.dwg

**LEGEND**  
--- EXISTING PROPERTY LINE  
--- EXISTING RIGHT OF WAY  
--- EXISTING ABUTTERS LOT LINE  
--- PROPOSED PROPERTY LINE

**REFERENCE PLANS:**  
1. THE PROPERTY LINES SHOWN ARE BASED OFF OF AN EXISTING CONDITIONS SURVEY THAT WAS PROVIDED TO TIGHE & BOND, INC. FROM MHF DESIGN CONSULTANTS, INC. ON SEPTEMBER 15, 2016.

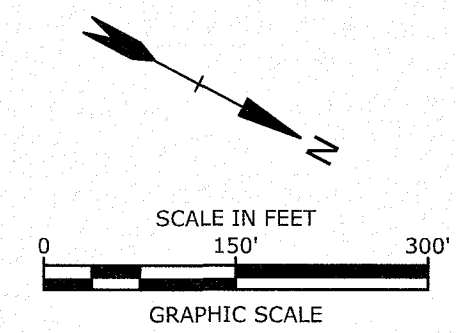
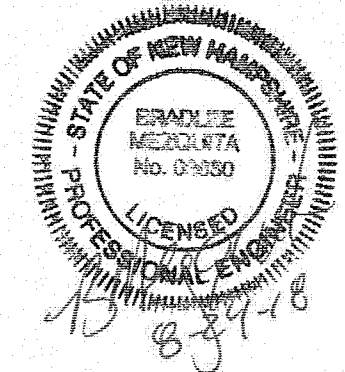




WETLAND AREA	ASSOCIATED WITH	PERMANENT IMPACTS		TEMPORARY IMPACTS		WETLAND ENHANCEMENT (MITIGATION)	
		AREA (SF)	LENGTH (LF) (1)	AREA (SF)	LENGTH (LF) (1)	AREA (SF)	LENGTH (LF) (1)
A1	Sediment removal from Policy Brook downstream of Rockingham Park Blvd.					1,178	126
A2	Sediment removal from box culvert under Rockingham Park Blvd.					1,335	330
A3	Creation of the flood storage area prior to the box culvert under Rockingham Park Blvd.					18,097	306
A4	Extension of NHDOT culvert	301					
B	Pipe removal					5,165	3,099
C1	Wetland impact: Phragmites adj. Policy Brook	3,027				114	
C2	Reconfiguration of the existing Policy Brook ditch					17,605	2,765
C3	Filling of the manmade dust management pond	7,174					
D	Pipe removal					5,176	3,882
E	Abandonment of Policy Brook ditch					4,393	1,216
F	Pipe removal					4,570	3,429
G	Reconfiguring of headwall at Pleasant Street			500	228		
H	Wetland impact: infield swales/ditches	4,489					
I	Wetland impact: infield swales/ditches	4,184					
J	Wetland impact: infield swales/ditches	42,828					
K	Reconfiguring the main irrigation pond					77,279 (2)	
L	Wetland impact: infield swales/ditches	270					
TOTALS		62,273	0	500	228	134,912	15,153

(1): The lengths of impacts to Policy Brook have been calculated as the sum of the banks and thread of the channel (3x the length) to be consistent with NH standards for calculating impacts to perennial streams.  
(2): Includes 33,012 SF of the existing pond that will be filled and replaced by 39,499 SF expansion. Final proposed pond = 83,766 SF.

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SCALES ACCORDINGLY

10	8/24/2018	REV. PER NHDOT COMMENTS
9	3/12/2018	REV. PER TOWN COMMENTS
8	12/20/2017	REV. IMPACT AREAS
7	11/20/2017	REV. IMPACT AREAS
6	11/17/2017	ISSUED FOR PRICING
5	11/3/2017	REV. IMPACT AREAS
4	5/8/2017	REV. PER NHDES COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCDD REVIEW #1
MARK	DATE	DESCRIPTION
PROJECT NO:	M-1775-1	
DATE:	11/28/2016	
FILE:	M1775-1-C_201A-301.dwg	
DRAWN BY:	NSC	
CHECKED:	JMP	
APPROVED:	BLM	

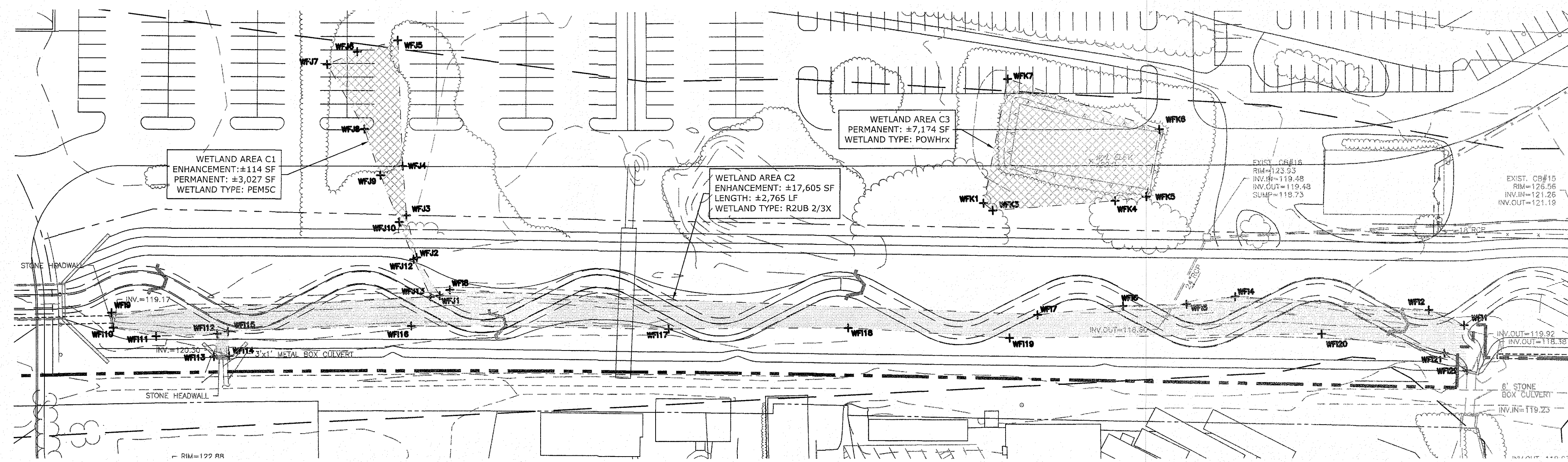
WETLAND IMPACT  
VICINITY PLAN

SCALE: AS SHOWN

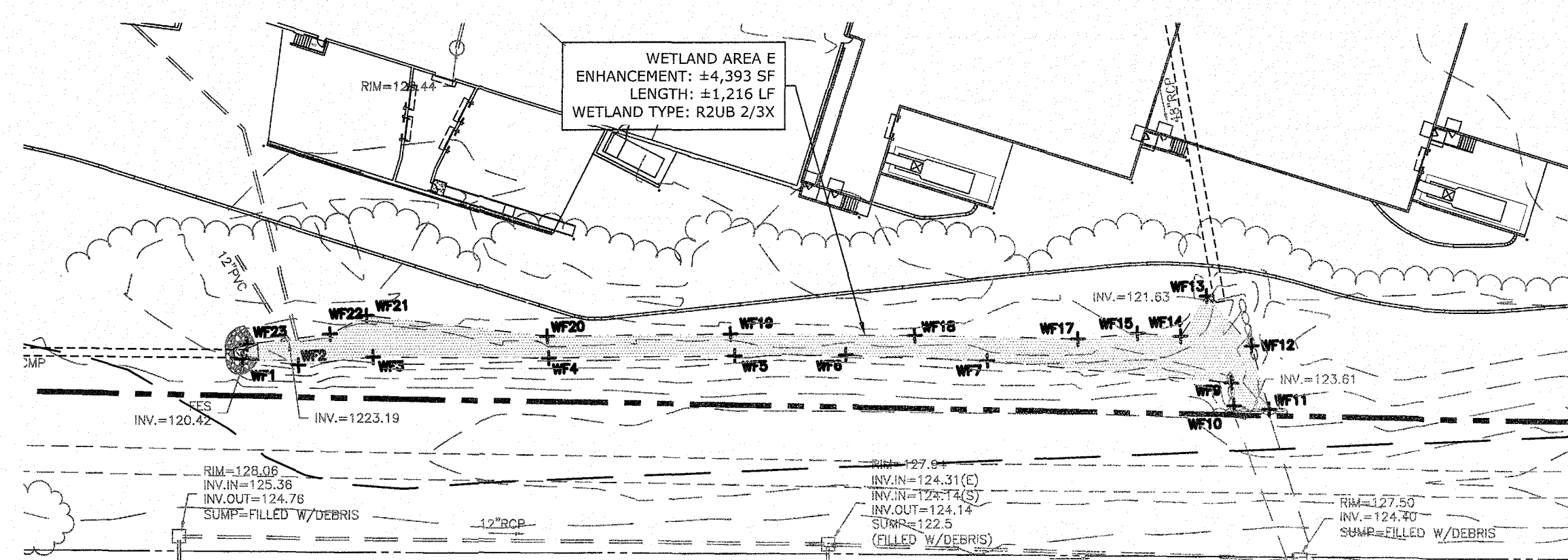
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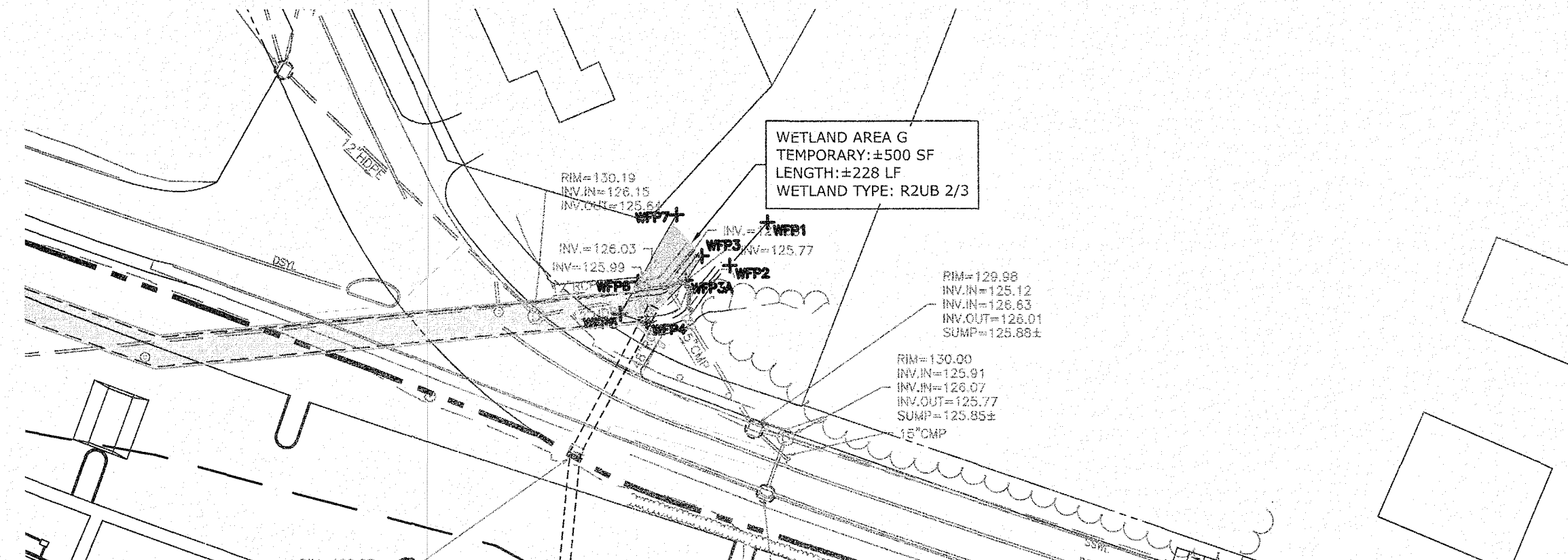
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Figures: AUCAD, Xref, OPEN CHANNEL DESIGN, COMPILED PLANS, 1775-1-C-201A-301.dwg



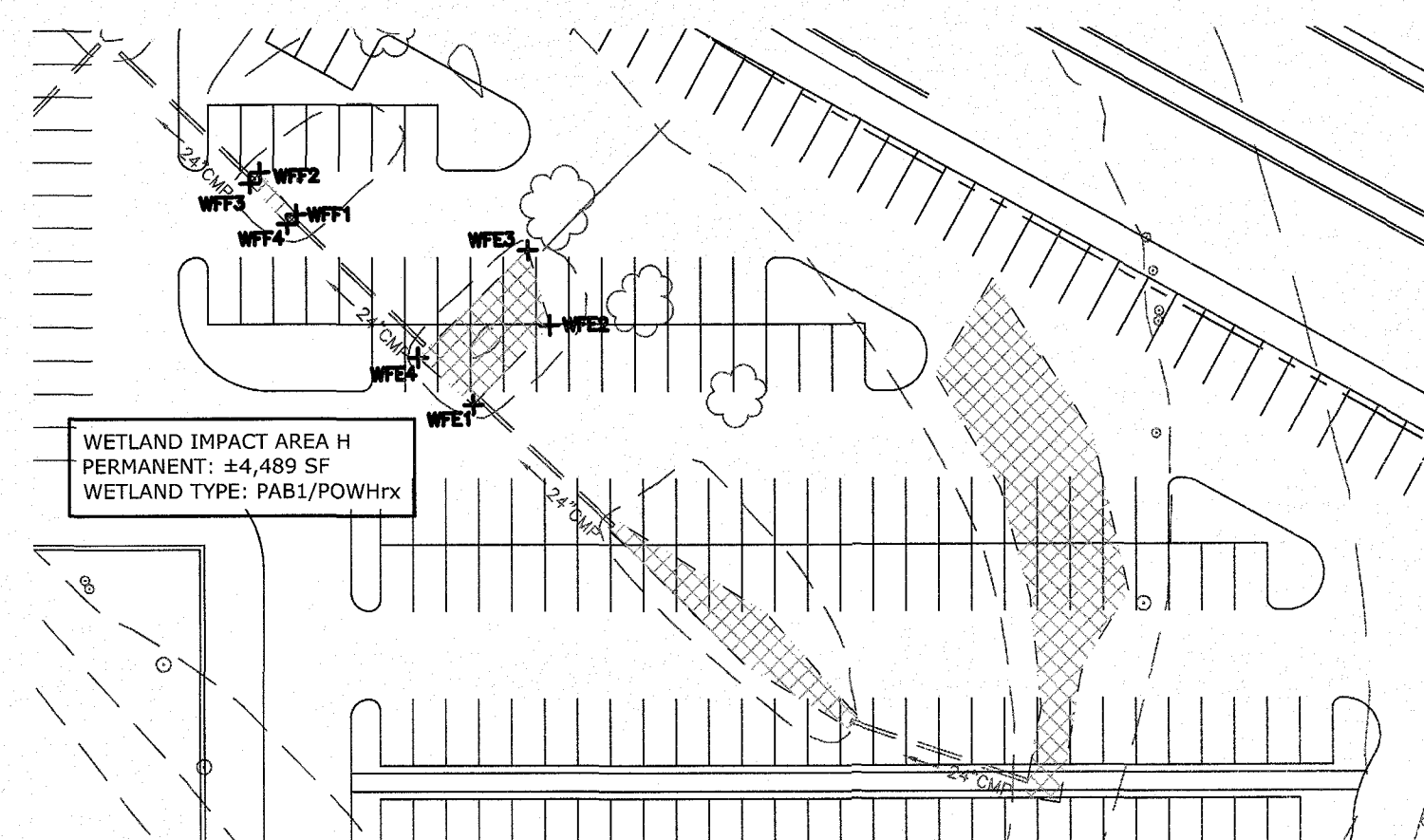
AREA C



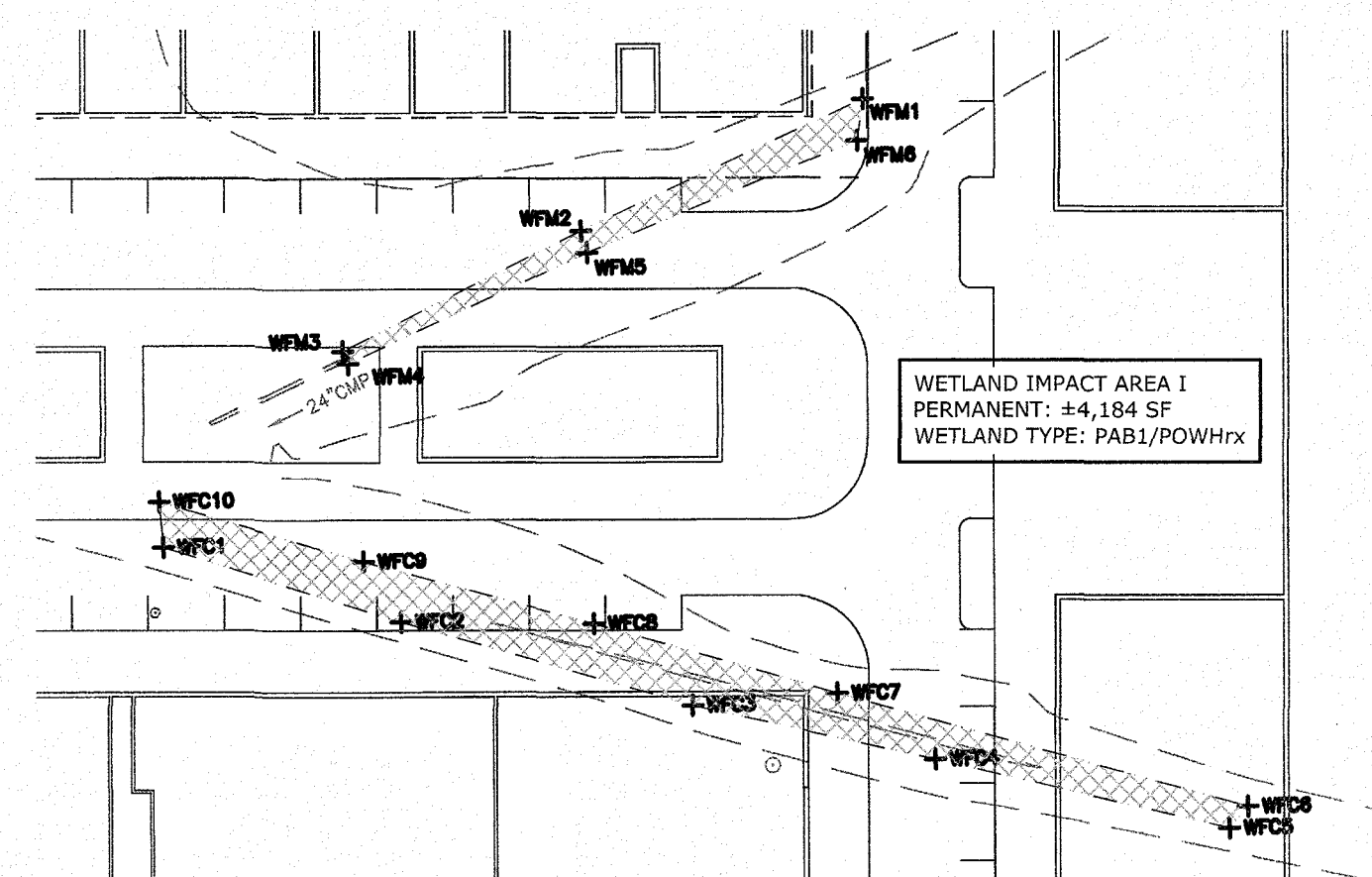
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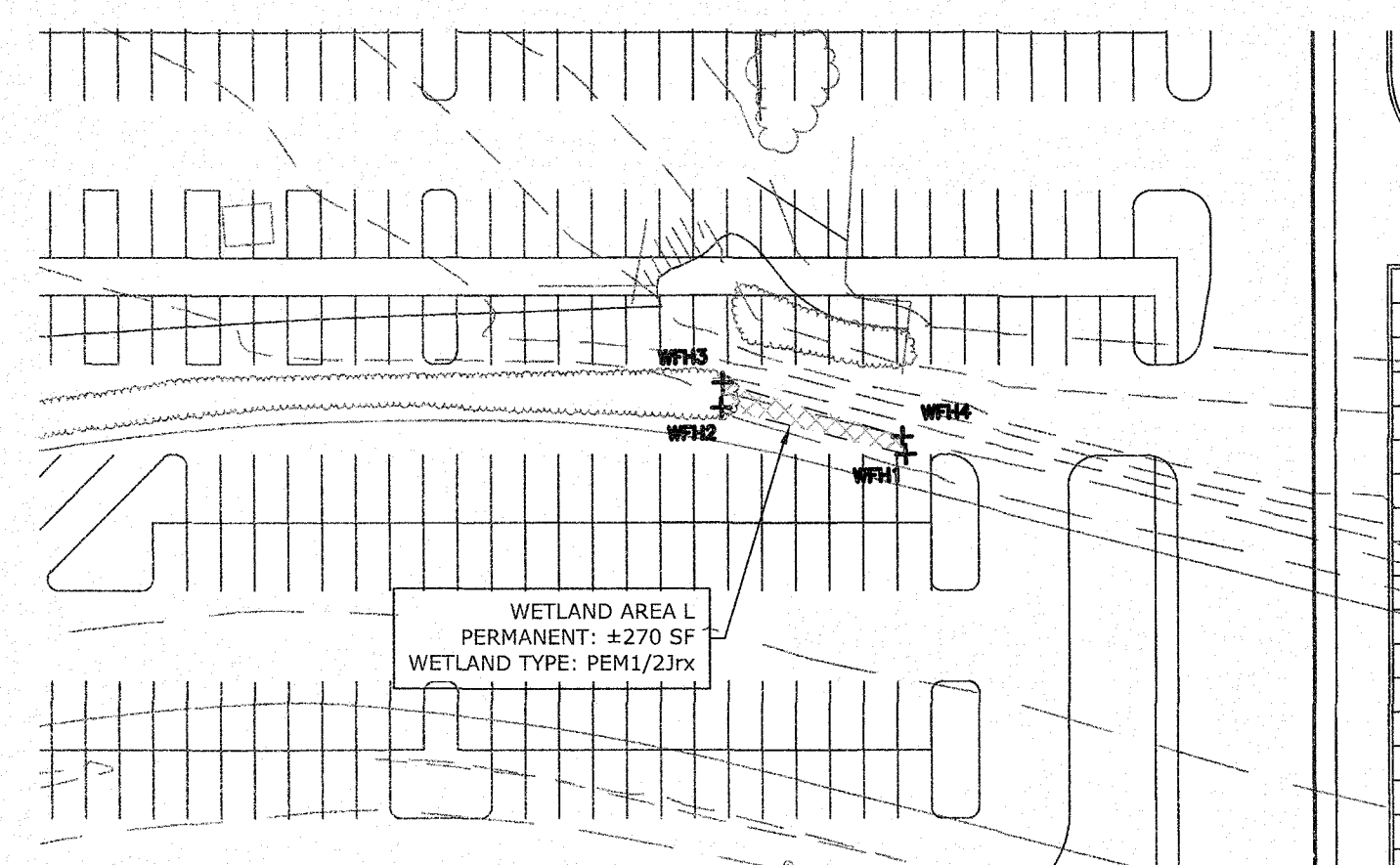
AREA G



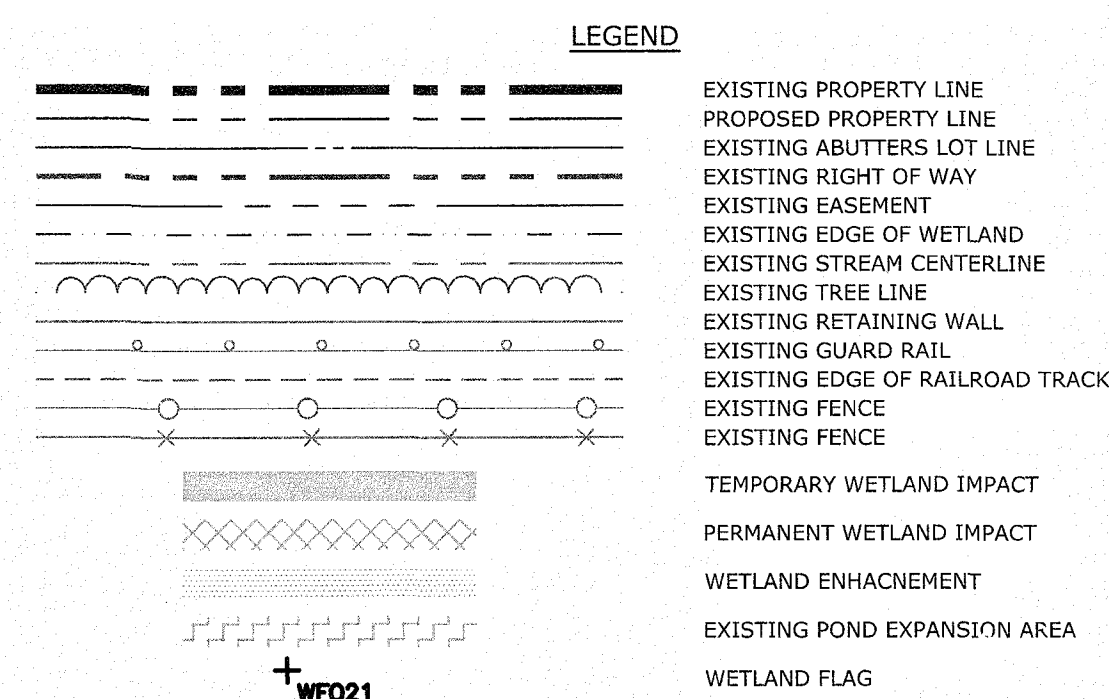
AREA H



AREA I

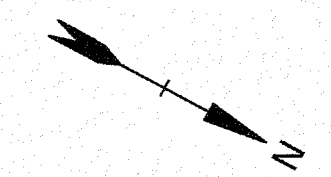
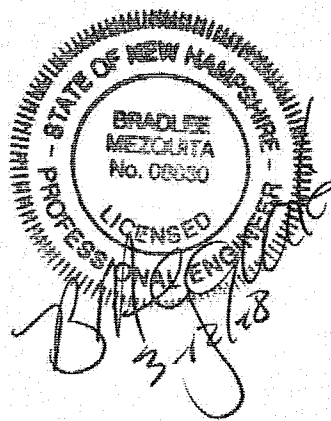
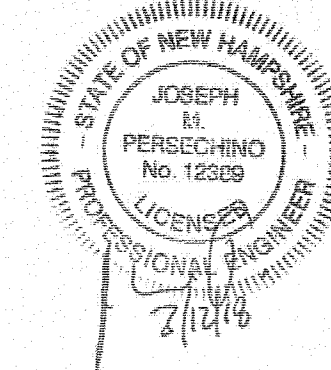


AREA L



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SCALE IN FEET  
0 50' 100'  
GRAPHIC SCALE

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**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**



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Salem, New Hampshire

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MARK	DATE	DESCRIPTION
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5	11/20/2017	REV. IMPACT AREAS
4	11/17/2017	ISSUED FOR PRICING
3	11/3/2017	REV. IMPACT AREAS
2	5/8/2017	REV. PER NHDES COMMENTS
1	1/19/2017	REV. PER RCCD REVIEW #1
PROJECT NO: M-1775-1		
DATE: 11/28/2016		
FILE: M1775-1-C-201A-301.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		

WETLAND IMPACT PLAN

SCALE: AS SHOWN

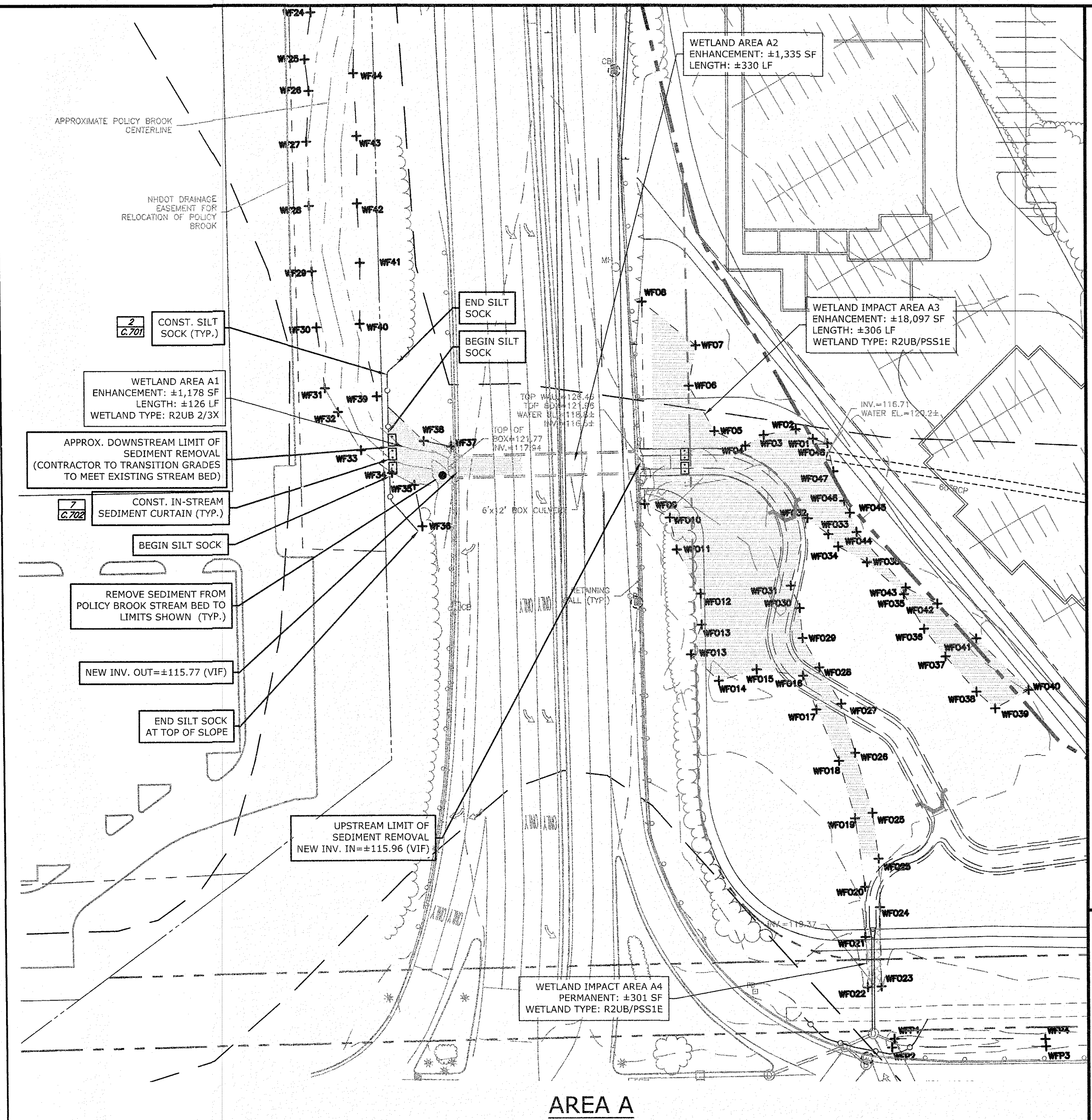
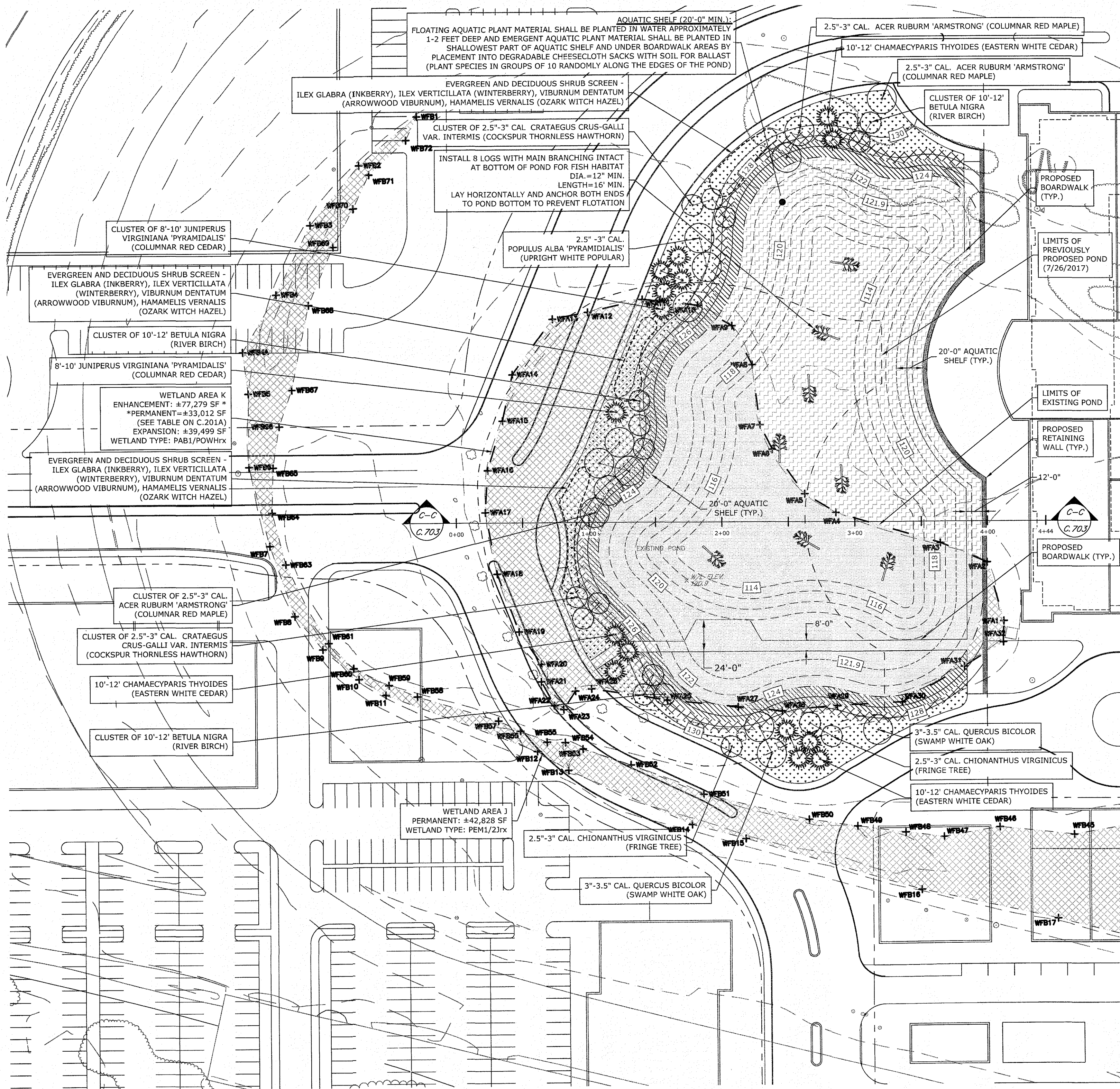
C.201B



POND PLANTING SCHEDULE						
LAYER	SCIENTIFIC NAME	COMMON NAME	PLANT SIZE	PLANTING ELEVATION	* PLANTING DISTANCE - O.C.	QUANTITY
BUFFER AREA #1	NEW ENGLAND WETLAND MIX	YEARLY DEPENDENT	HTTP://NEWP.COM/CATALOG/SEED-MIXES	-	124 - 127 FT.	1 LB. / 2,500 SF
	SHRUBS (WETMIX AREA)	LINDERA BENZOIN	SPICEBUSH	2-3' CONTAINER GROWN	124 - 127 FT.	10 FT.
	SHRUBS (WETMIX AREA)	CORNUS SERICEA	RED-OSIER DOGWOOD	2-3' CONTAINER GROWN	124 - 127 FT.	10 FT.
BUFFER AREA #2	NEW ENGLAND SHOWY WILDFLOWER MIX	YEARLY DEPENDENT	HTTP://NEWP.COM/CATALOG/SEED-MIXES	-	127 - 129 FT.	1 LB. / 1,900 SF
	SHRUBS (WILDFLOWER AREA)	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	2-3' CONTAINER GROWN	127 - 129 FT.	10 FT.
	SHRUBS (WILDFLOWER AREA)	CORNUS AMOMUM	SILKY DOGWOOD	2-3' CONTAINER GROWN	127 - 129 FT.	10 FT.
BUFFER AREA #3	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN
	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN
	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN
AQUATIC SHELF (SEE PLAN)	AQUATIC/EMERGENT	PONTERDERIA CORDATA	PICKERELWEED	2" TUBERS / BARE ROOT STOCK	123-124 FT.	2 FT.
	AQUATIC/EMERGENT	PELTANDRA VIRGINICA	ARROW ARUM	2" TUBERS / BARE ROOT STOCK	123-124 FT.	2 FT.
	AQUATIC/FLOATING	NYMPHAEA ODORATA	WHITE WATER LILY	2" TUBERS / BARE ROOT STOCK	122 - 123 FT.	2 FT.
	AQUATIC/FLOATING	POTAMOGETON NODOSUS	LONG LEAF PONDWEED	2" TUBERS / BARE ROOT STOCK	122 - 123 FT.	2 FT.

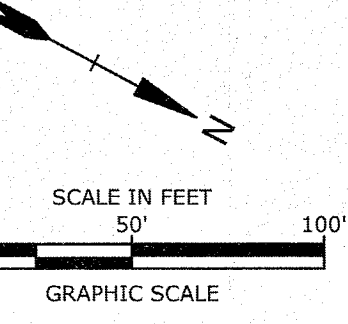
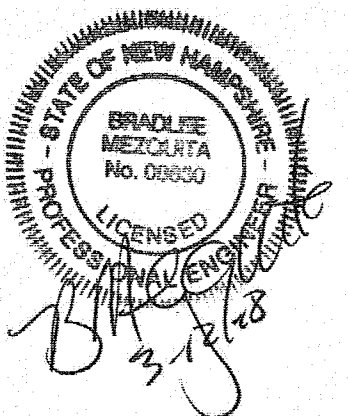
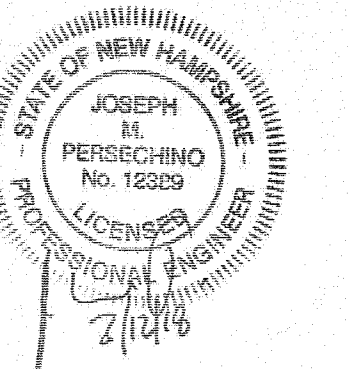
\* PLANT SHRUB SPECIES IN GROUPS RANDOMLY ALONG POND EDGE. COORDINATE NUMBER AND LOCATION WITH LANDSCAPE ARCHITECT.

- PROPOSED BUFFER AREA #1 (WETLAND MIX W/ SHRUBS) AREA=±10,067 SF
- PROPOSED BUFFER AREA #2 (WILDFLOWER MIX W/ SHRUBS) AREA=±6,758 SF
- PROPOSED BUFFER AREA #3 (COMBINATION LAWN/WILDFLOWER MIX/NATIVE DECIDUOUS & EVERGREEN SHRUB/TREE PLANTINGS) (SEE PLAN) AREA=±18,975 SF
- TOTAL: AREA=±35,800 SF



- LEGEND**
- EXISTING PROPERTY LINE
  - PROPOSED PROPERTY LINE
  - EXISTING ADJUTERS LOT LINE
  - EXISTING RIGHT OF WAY
  - EXISTING EASEMENT
  - EXISTING EDGE OF WETLAND
  - EXISTING STREAM CENTERLINE
  - EXISTING TREE LINE
  - EXISTING RETAINING WALL
  - EXISTING GUARD RAIL
  - EXISTING EDGE OF RAILROAD TRACK
  - EXISTING FENCE
  - EXISTING FENCE
  - TEMPORARY WETLAND IMPACT
  - PERMANENT WETLAND IMPACT
  - WETLAND ENHANCEMENT
  - EXISTING POND EXPANSION AREA
  - WETLAND FLAG
- ABBREVIATIONS:**
- CB: CATCH BASIN
  - CONST: CONSTRUCT
  - COORD: COORDINATE
  - DIA: DIAMETER
  - DPH: DRAIN MANHOLE
  - ELEV: ELEVATION
  - FES: FLARED END SECTION
  - HOPE: HIGH-DENSITY POLYETHYLENE
  - INV: INVERT
  - INV. IN: INVERT IN
  - INV. OUT: INVERT OUT
  - LF: LINEAR FEET
  - MAX: MAXIMUM
  - MIN: MINIMUM
  - PDMH: PROPOSED DRAIN MANHOLE
  - SMH: SEWER MANHOLE
  - TB: TOP OF BANK
  - TR: TOP OF RIFLE
  - TBR: TO BE REMOVED
  - THLWG: THALWEG
  - TW: TOP OF WALL
  - TYP: TYPICAL
  - VIF: VERIFY IN FIELD
  - W/: WITH

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FLOODPLAIN  
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MARK	DATE	DESCRIPTION
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7	12/20/2017	REV. IMPACT AREAS
6	11/20/2017	REV. IMPACT AREAS
5	11/17/2017	ISSUED FOR PRICING
4	11/3/2017	REV. IMPACT AREAS
3	5/8/2017	REV. PER NHDES COMMENTS
2	2/10/2017	REV. BOX CULVERT DESIGN
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PROJECT NO:	M-1775-1	
DATE:	11/28/2016	
FILE:	M1775-1-C_201A-301.dwg	
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CHECKED:	JMP	
APPROVED:	BLM	

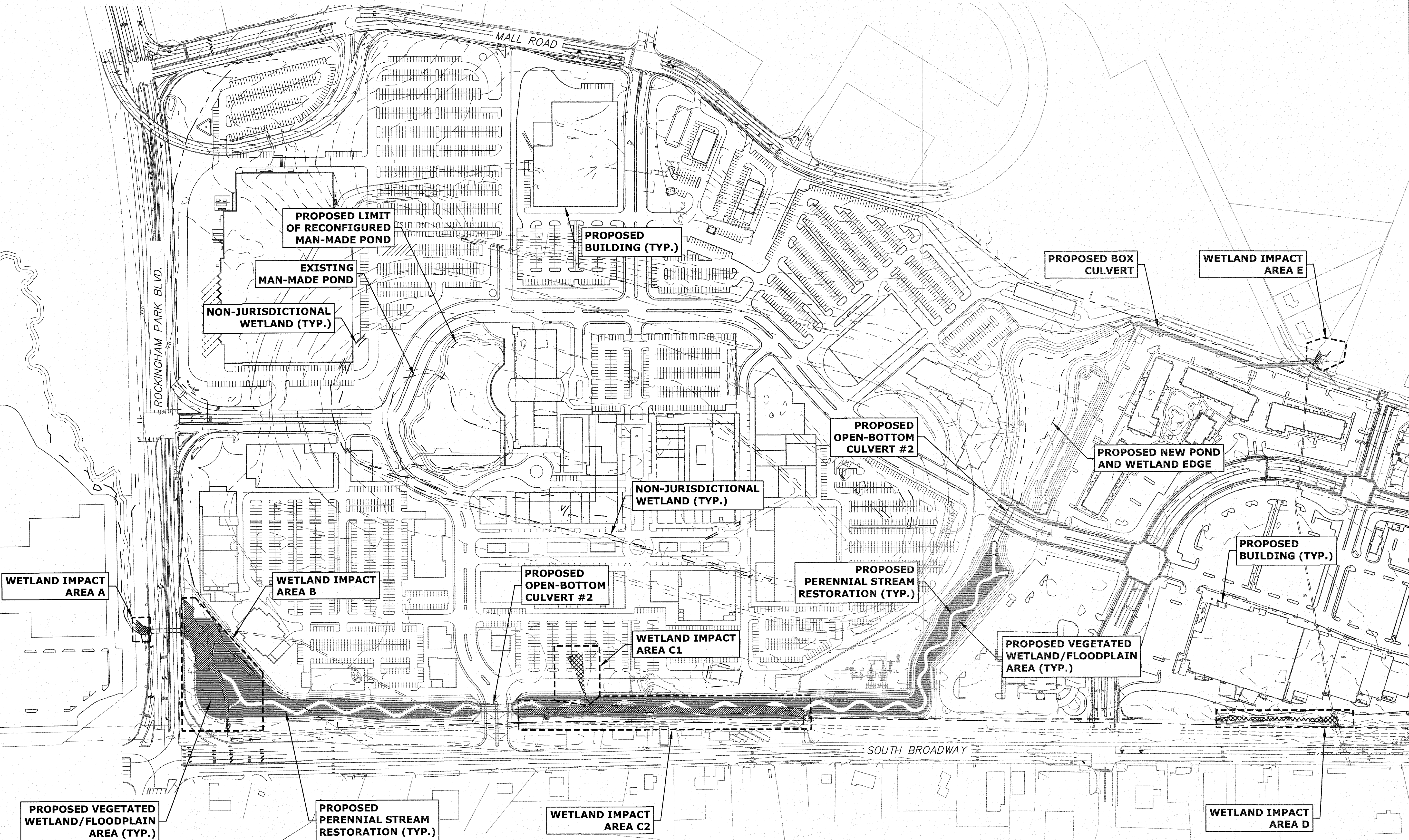
WETLAND IMPACT PLAN

SCALE: AS SHOWN

C.201C



Let's Start: 8/24/2018  
Plotted On: Aug 24, 2018 9:19am By: NSC  
Tighe & Bond: \\M1775-MHF Design Consultants\Drawings- Figures\AutoCAD\Tuscan Village\1775-1-C-201A-301.dwg



SUMMARY OF WETLAND IMPACTS

AREA A:  
TEMPORARY:  
AREA=±1,178 SF  
TYPE:R2UB 2/3X

AREA B:  
TEMPORARY:  
AREA=±18,097 SF  
PERMANENT:  
AREA=±301 SF  
TYPE:R2UB/PSS1E

AREA C1:  
TEMPORARY:  
AREA=±114 SF  
PERMANENT:  
AREA=±3,027 SF  
TYPE:PEMSC

AREA C2:  
TEMPORARY:  
AREA=±17,605 SF  
TYPE:R2UB 2/3X

AREA D:  
PERMANENT:  
AREA=±4,393 SF  
TYPE:R2UB 2/3X

AREA E:  
TEMPORARY:  
AREA=±500 SF  
TYPE:R2UB 2/3

WETLAND IMPACT TOTALS

TEMPORARY WETLAND IMPACTS:  
AREA=±37,494 SF

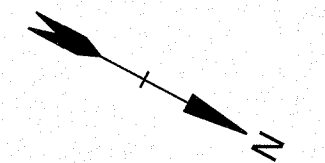
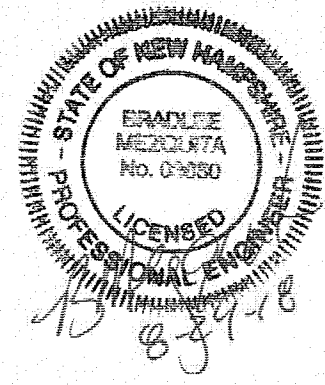
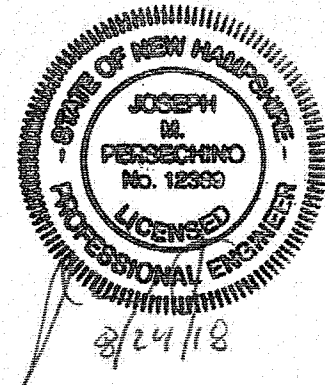
PERMANENT WETLAND IMPACTS:  
AREA=±7,721 SF

NON-JURISDICTIONAL WETLANDS  
(MAN-MADE PONDS & DRAINAGE SWALES)

WETLAND MITIGATION TOTALS

PROPOSED WETLAND/FLOODPLAIN:  
AREA=±134,492 SF

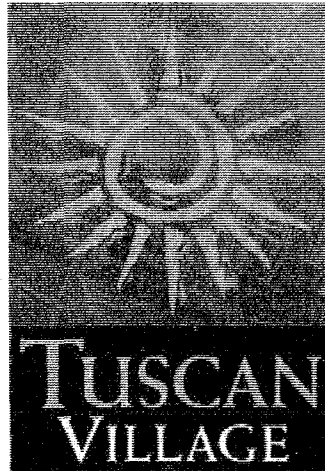
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SCALE IN FEET  
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GRAPHIC SCALE

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TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS



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Salem, New Hampshire

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SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
5	8/24/2018	REV. PER NHDOT COMMENTS
4	3/12/2018	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1

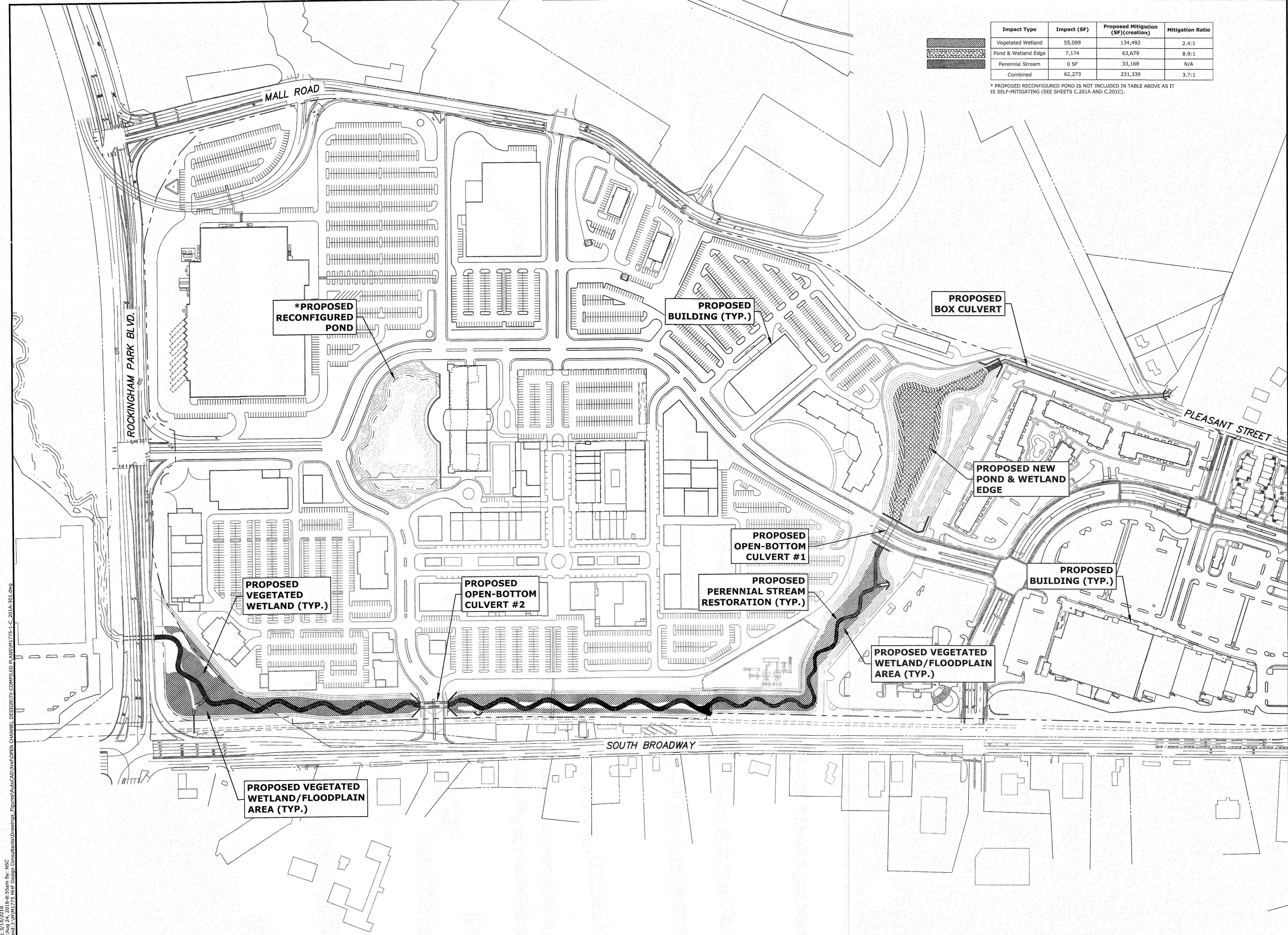
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DATE:	11/28/2016
FILE:	M1775-1-C-201A-301.dwg
DRAWN BY:	NSC
CHECKED:	JMP
APPROVED:	BLM

SALEM JURISDICTIONAL  
WETLAND IMPACT  
VICINITY PLAN

SCALE: AS SHOWN

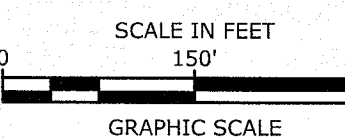
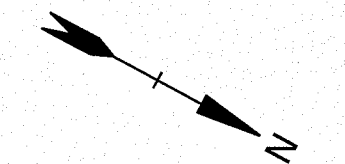
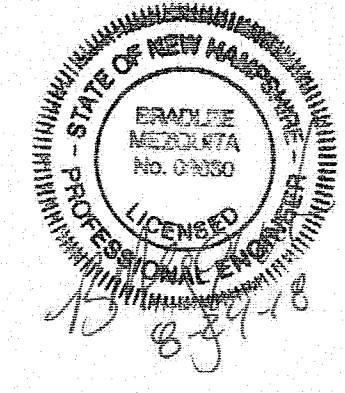
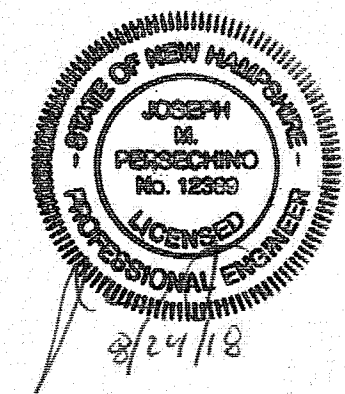
C.201D





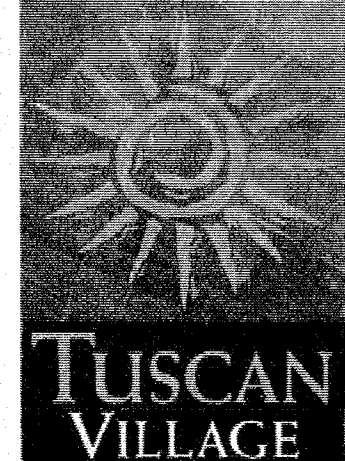
Impact Type	Impact (SF)	Proposed Mitigation (SF)(creation)	Mitigation Ratio
Vegetated Wetland	55,099	134,492	2.4:1
Pond & Wetland Edge	7,174	63,679	8.9:1
Perennial Stream	0 SF	33,168	N/A
Combined	62,273	231,339	3.7:1

\* PROPOSED RECONFIGURED POND IS NOT INCLUDED IN TABLE ABOVE AS IT IS SELF-MITIGATING (SEE SHEETS C.201A AND C.201C).



PERMIT DRAWINGS

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**



OMJ REALTY, LLC  
Salem, New Hampshire

VERIFY SCALE  
BAR IS 1 INCH ON ORIGINAL DRAWING  
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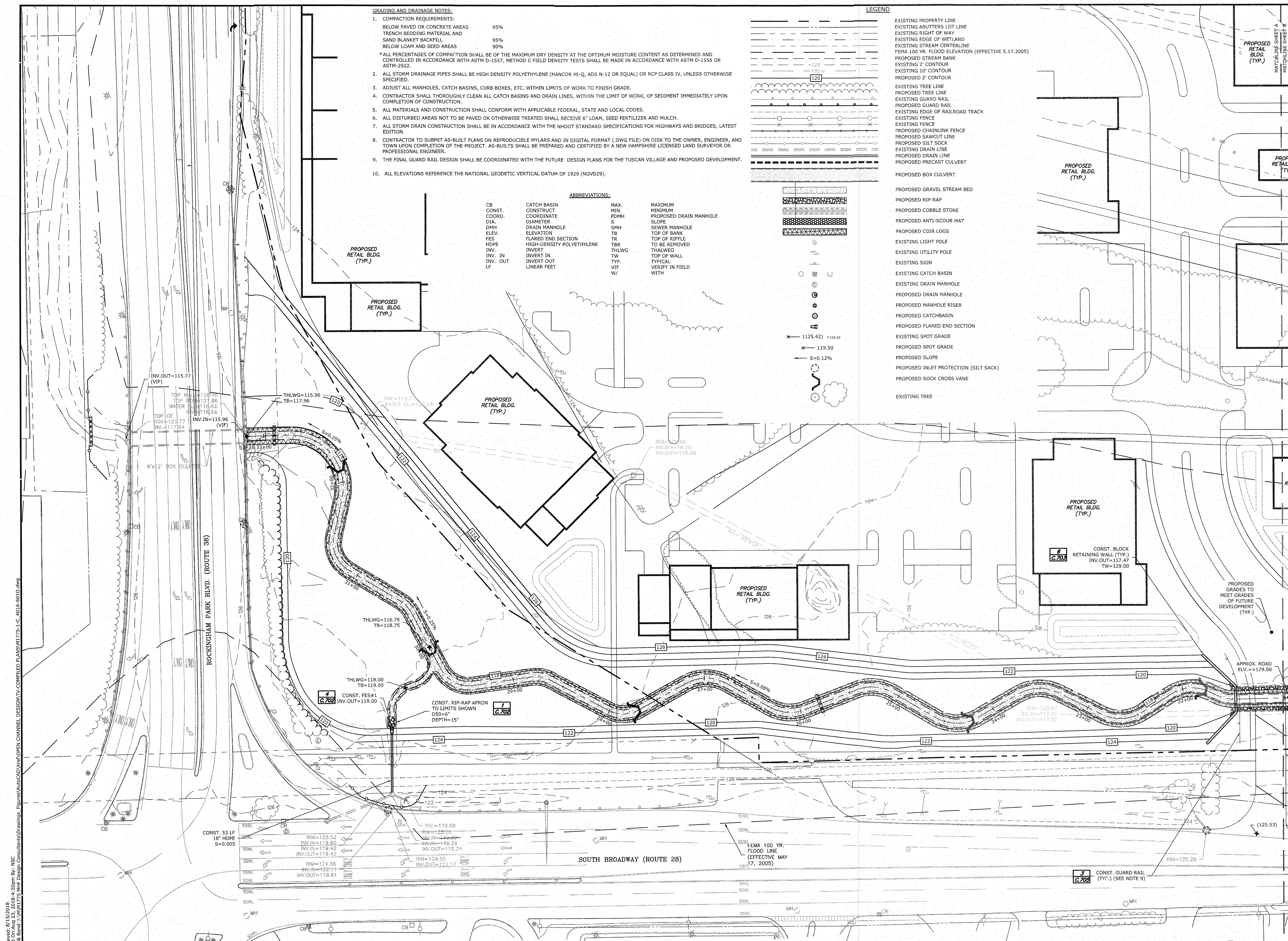
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7	12/20/2017	REV. IMPACT AREAS
6	11/20/2017	REV. IMPACT AREAS
5	11/17/2017	ISSUED FOR PRICING
4	11/3/2017	REV. IMPACT AREAS
3	5/8/2017	REV. PER RHDES COMMENTS
2	3/9/2017	REV. BOX CULVERT DESIGN
1	2/10/2017	REV. BOX CULVERT DESIGN
MARK	DATE	DESCRIPTION
PROJECT NO: M-1775-1		
DATE: 11/28/2016		
FILE: M1775-1-C_201A-301.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		

**WETLAND MITIGATION  
PLAN**

SCALE: AS SHOWN

Last Saved: 3/14/2018  
Plotted On: Aug 24, 2018 8:55am By: NSC  
Tighe & Bond: M1775 MHF Design Consultants Drawings  
Figures: AutoCAD User: OPEN CHANNEL DESIGNITY-COMPILED PLANS M1775-1-C\_201A-301.dwg





- GRADING AND DRAINAGE NOTES:**
1. COMPACTION REQUIREMENTS:  
BELOW PAVED OR CONCRETE AREAS 95%  
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%  
BELOW LOAM AND SEED AREAS 90%  
\*ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
  2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL) OR RCP CLASS IV, UNLESS OTHERWISE SPECIFIED.
  3. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
  4. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
  5. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
  6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
  7. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
  8. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILE) ON DISK TO THE OWNER, ENGINEER, AND TOWN UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
  9. THE FINAL GUARD RAIL DESIGN SHALL BE COORDINATED WITH THE FUTURE DESIGN PLANS FOR THE TUSCAN VILLAGE AND PROPOSED DEVELOPMENT.
  10. ALL ELEVATIONS REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

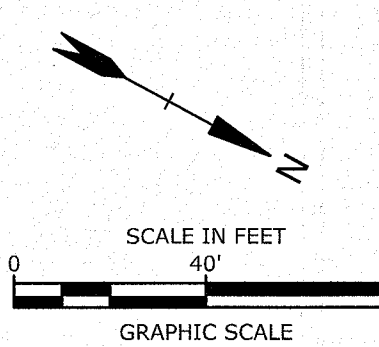
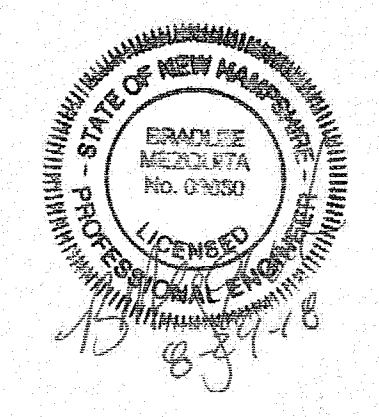
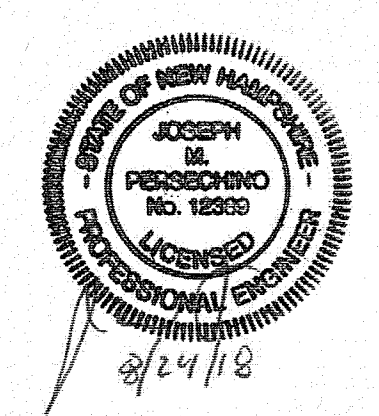
**ABBREVIATIONS:**

CB	CATCH BASIN	MAX.	MAXIMUM
CONST.	CONSTRUCT	MIN.	MINIMUM
COORD.	COORDINATE	PDMH	PROPOSED DRAIN MANHOLE
DIA.	DIAMETER	S	SLOPE
DMH	DRAIN MANHOLE	SMH	SEWER MANHOLE
ELEV.	ELEVATION	TB	TOP OF BANK
FES	FLARED END SECTION	TR	TOP OF RIFFLE
HDP	HIGH-DENSITY POLYETHYLENE	TBR	TO BE REMOVED
INV.	INVERT	THLWG	THALWEG
INV. IN	INVERT IN	TW	TOP OF WALL
INV. OUT	INVERT OUT	TYP.	TYPICAL
LF	LINEAR FEET	VIF	VERIFY IN FIELD
		W/	WITH

- LEGEND**
- EXISTING PROPERTY LINE
  - EXISTING ABUTTERS LOT LINE
  - EXISTING RIGHT OF WAY
  - EXISTING EDGE OF WETLAND
  - EXISTING STREAM CENTERLINE
  - FEMA 100 YR. FLOOD ELEVATION (EFFECTIVE 5.17.2005)
  - PROPOSED STREAM BANK
  - EXISTING 2' CONTOUR
  - EXISTING 10' CONTOUR
  - PROPOSED 2' CONTOUR
  - EXISTING TREE LINE
  - PROPOSED TREE LINE
  - EXISTING GUARD RAIL
  - PROPOSED GUARD RAIL
  - EXISTING EDGE OF RAILROAD TRACK
  - EXISTING FENCE
  - EXISTING FENCE
  - PROPOSED CHAINLINK FENCE
  - PROPOSED SAWCUT LINE
  - PROPOSED SILT SOCK
  - EXISTING DRAIN LINE
  - PROPOSED DRAIN LINE
  - PROPOSED PRECAST CULVERT
  - PROPOSED BOX CULVERT
  - PROPOSED GRAVEL STREAM BED
  - PROPOSED RIP-RAP
  - PROPOSED COBBLE STONE
  - PROPOSED ANTI-SCOUR MAT
  - PROPOSED COIR LOGS
  - EXISTING UTILITY POLE
  - EXISTING LIGHT POLE
  - EXISTING SIGN
  - EXISTING CATCH BASIN
  - EXISTING DRAIN MANHOLE
  - PROPOSED DRAIN MANHOLE
  - PROPOSED MANHOLE RISER
  - PROPOSED CATCHBASIN
  - PROPOSED FLARED END SECTION
  - EXISTING SPOT GRADE
  - PROPOSED SPOT GRADE
  - PROPOSED SLOPE
  - PROPOSED INLET PROTECTION (SILT SACK)
  - PROPOSED ROCK CROSS VANE
  - EXISTING TREE

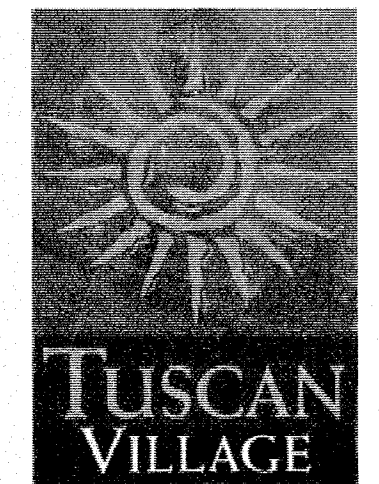
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**MHF Design Consultants, Inc.**



**PERMIT DRAWINGS**

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**



**OMJ REALTY, LLC**  
Salem, New Hampshire

**VERIFY SCALE**  
BAR IS 1 INCH ON ORIGINAL DRAWING  
0 = 1 INCH  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

NO.	DATE	DESCRIPTION
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12	3/12/2018	REV. PER TOWN COMMENTS
11	11/17/2017	ISSUED FOR PRICING
10	10/12/2017	REV. PER FEMA COMMENTS
9	9/18/2017	REV. PER FEMA RFMI
8	7/26/2017	REV. PER NHDOS COMMENTS
7	6/20/2017	REV. PER FEMA RFMI
6	6/5/2017	REV. STREAM CROSSINGS
5	5/8/2017	REV. PER NHDOS COMMENTS
4	3/24/2017	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCDD REVIEW #1

MARK	DATE	DESCRIPTION
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DATE:	11/28/2016	
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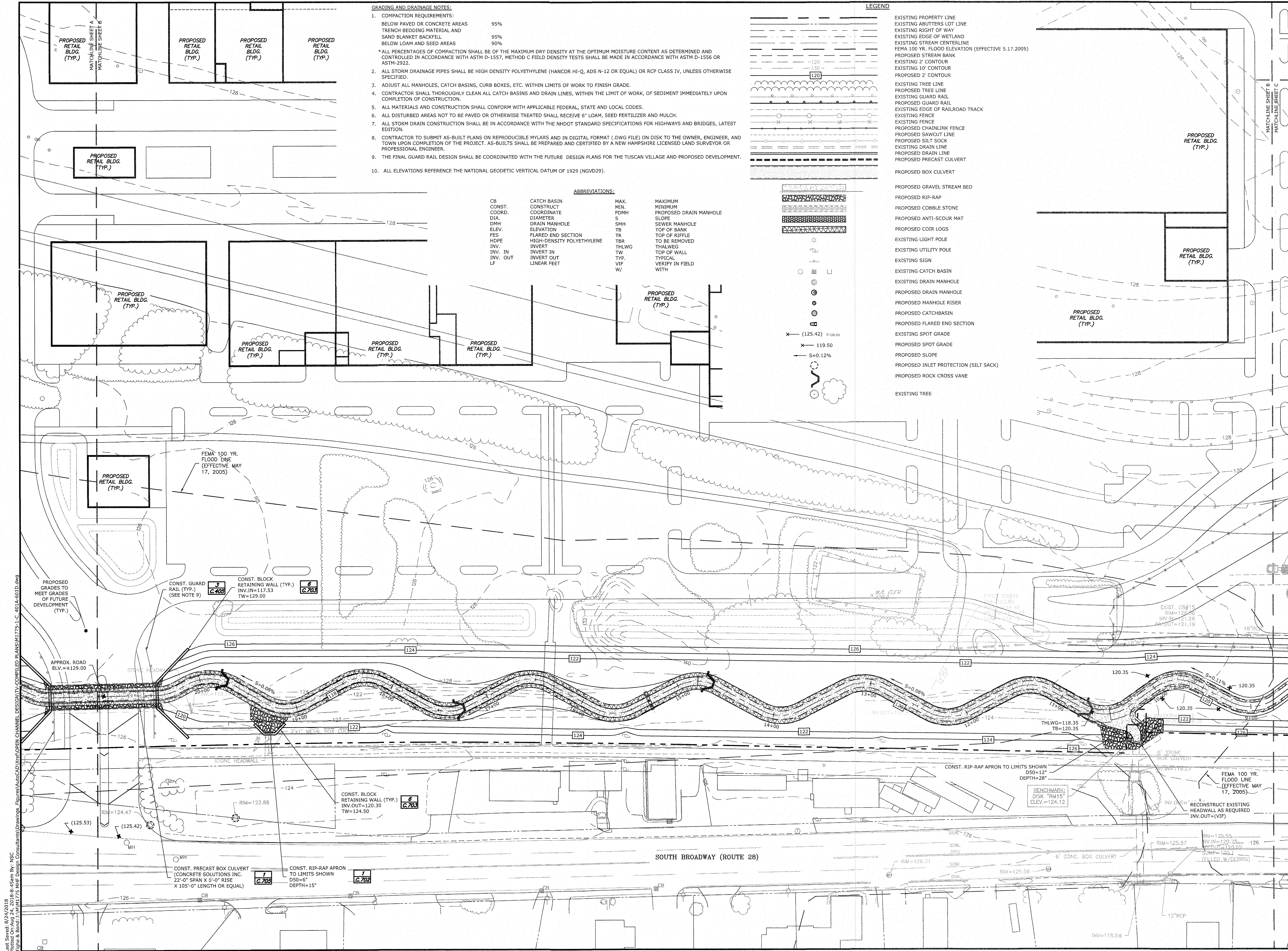
**POLICY BROOK GRADING  
& DRAINAGE PLAN**

SCALE: AS SHOWN

**C.401A**

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SCALE IN FEET  
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GRAPHIC SCALE

PERMIT DRAWINGS

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**

**OMJ REALTY, LLC**  
Salem, New Hampshire

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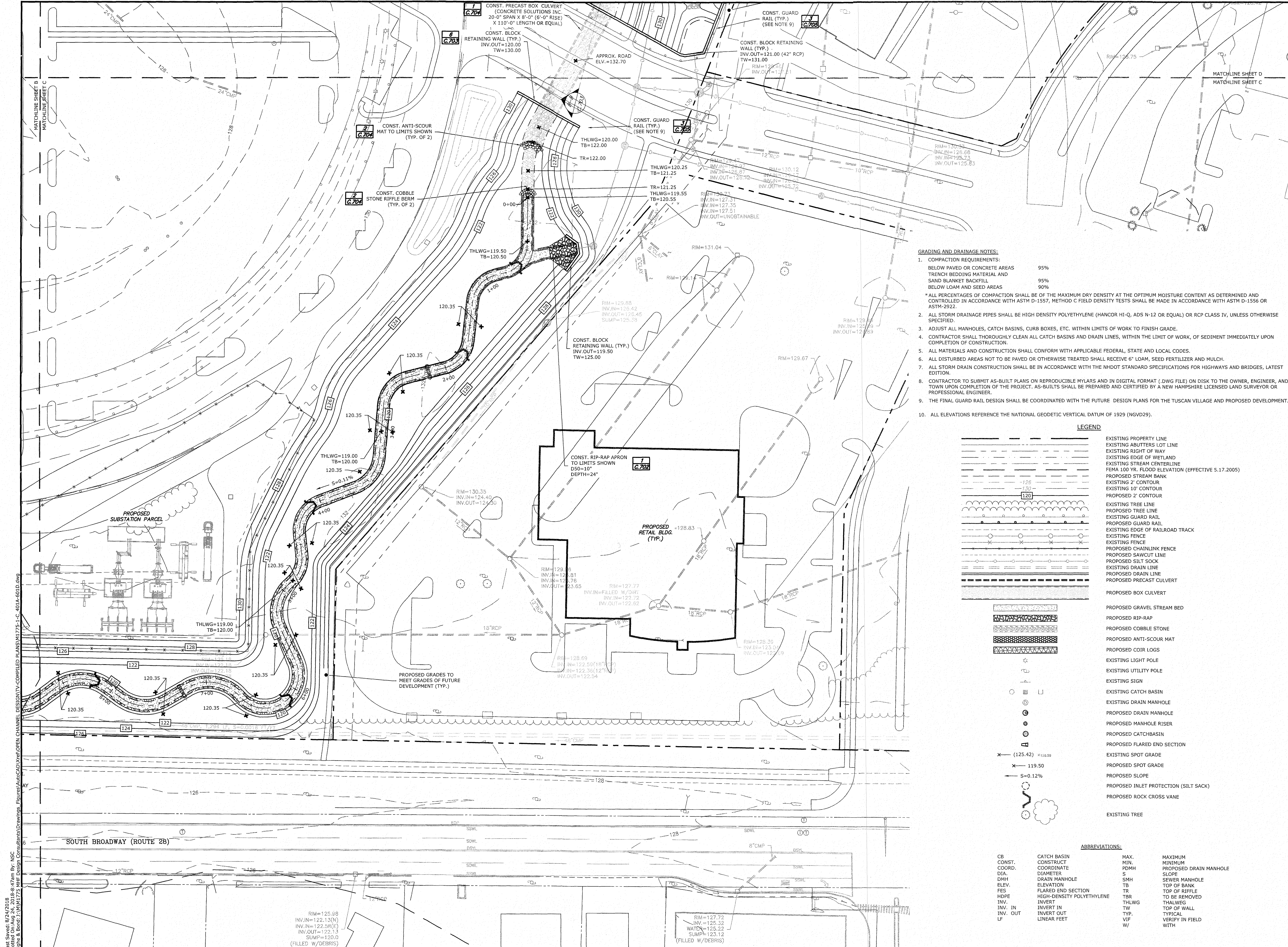
**POLICY BROOK GRADING  
& DRAINAGE PLAN**

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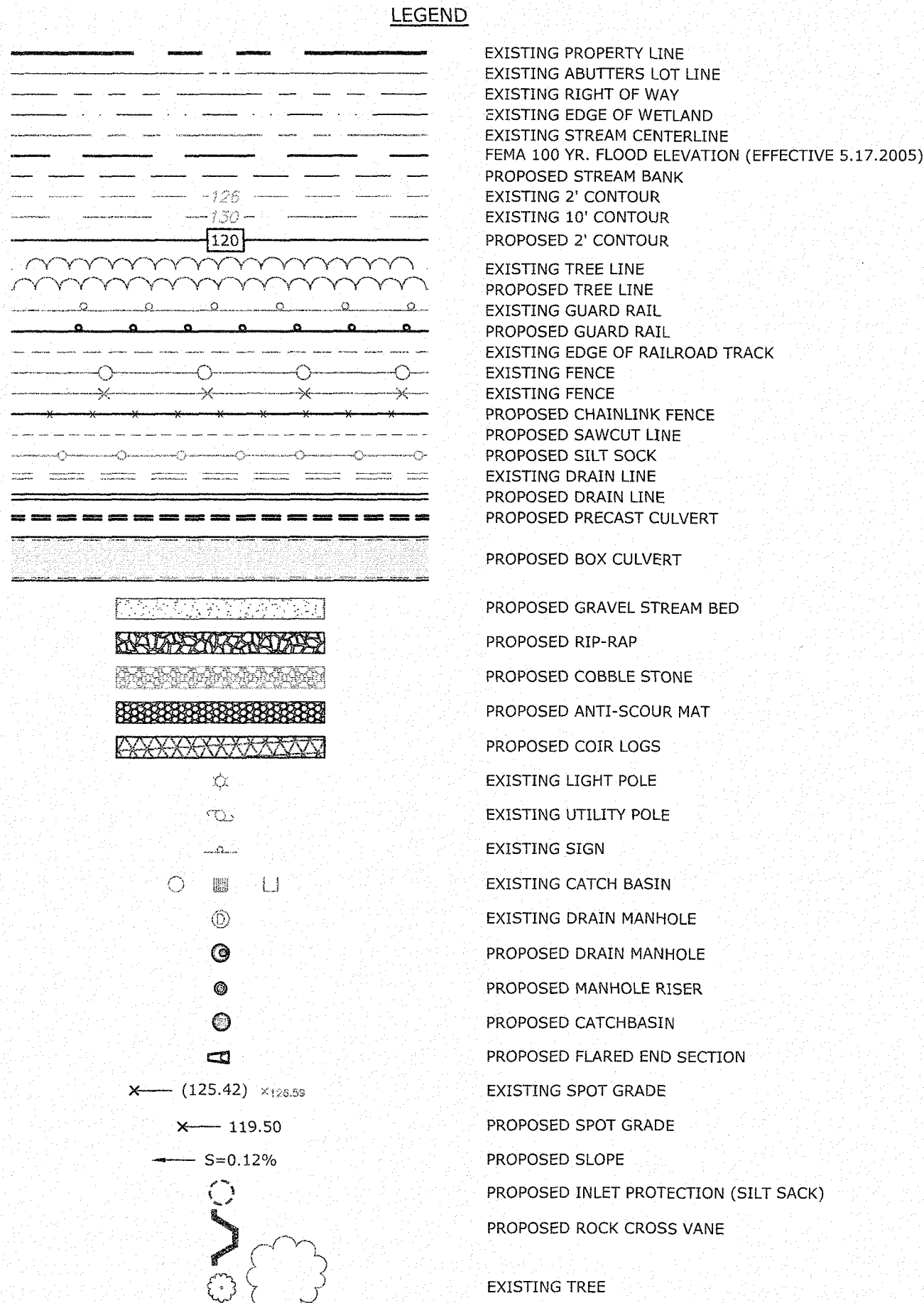
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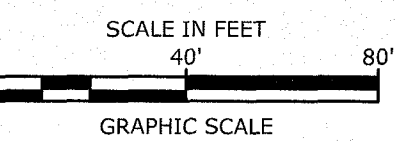
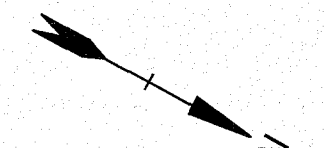
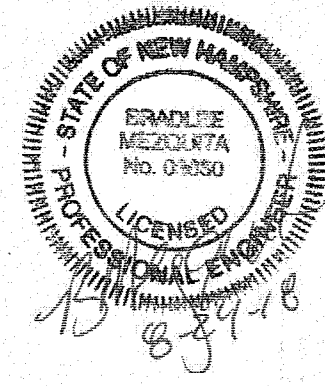
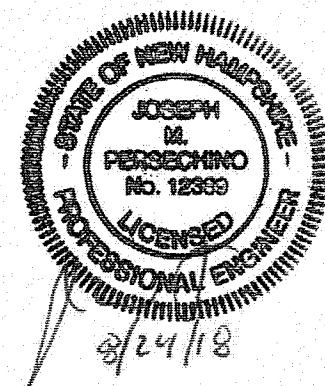
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**ABBREVIATIONS:**

CB CONST. COORD.	CATCH BASIN CONSTRUCT COORDINATE	MAX. MIN. PDMMH	MAXIMUM MINIMUM PROPOSED DRAIN MANHOLE
DIA.	DRAIN MANHOLE	S	SLOPE
DMH	DRAIN MANHOLE	SMH	SEWER MANHOLE
ELEV.	ELEVATION	TB	TOP OF BANK
FES	FLARED END SECTION	TR	TOP OF RIFFLE
HDP	HIGH-DENSITY POLYETHYLENE	TBR	TO BE REMOVED
INV.	INVERT	THLWG	THALWEG
INV. IN	INVERT IN	TW	TOP OF WALL
INV. OUT	INVERT OUT	TYP.	TYPICAL
LF	LINEAR FEET	VIF	VERIFY IN FIELD
		W/	WITH

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PERMIT DRAWINGS

## TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS



OMJ REALTY, LLC  
Salem, New Hampshire

VERIFY SCALE

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ORIGINAL DRAWING  
0 IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY

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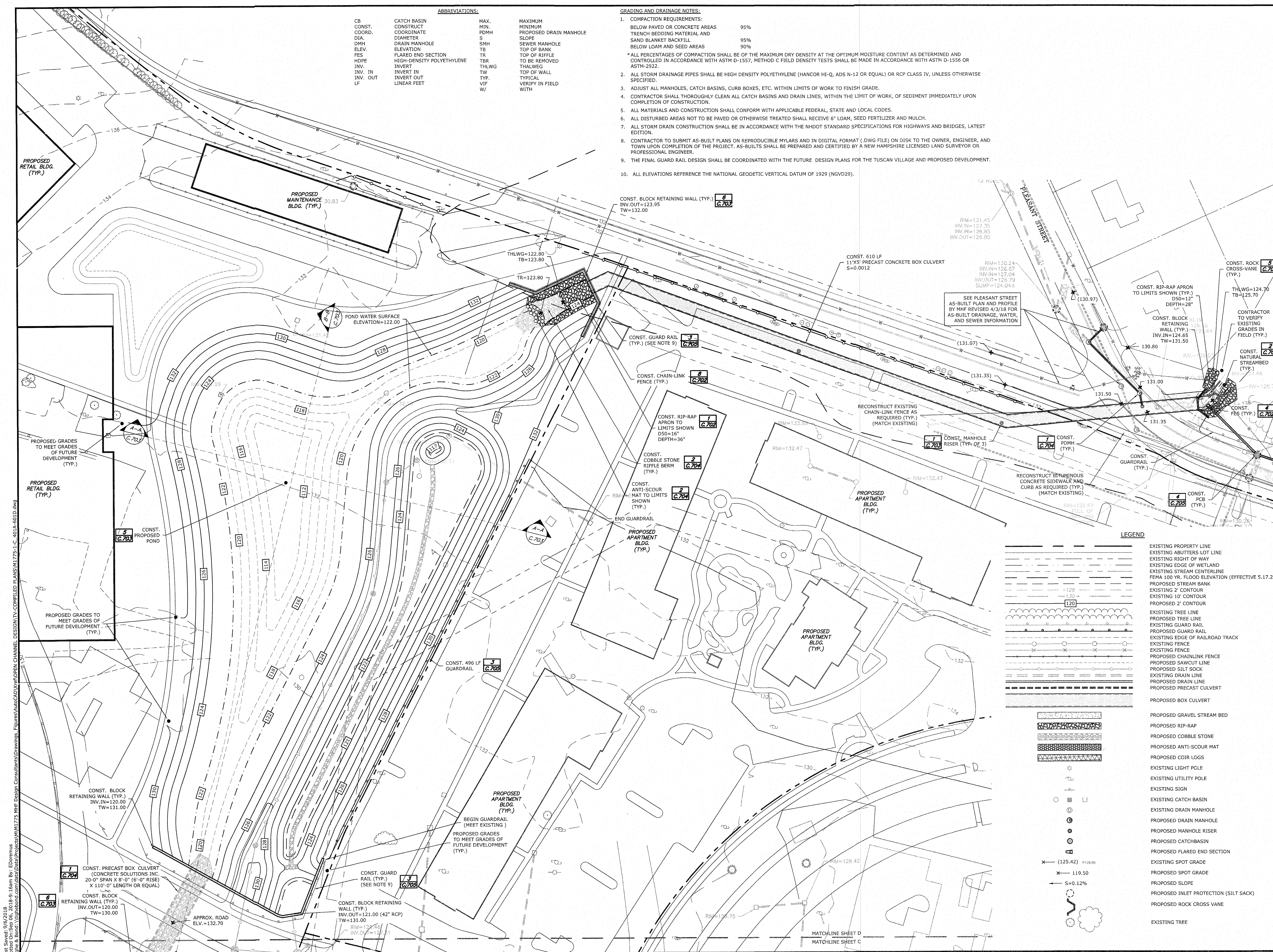
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DATE:	11/28/2016
FILE:	M1775-1-C_401A-601D.dwg
DRAWN BY:	NSC
CHECKED:	JMP
APPROVED:	BLM

WEST CHANNEL POLICY  
BROOK GRADING &  
DRAINAGE PLAN

SCALE: AS SHOWN

C.401C





- ABBREVIATIONS:**
- |          |                           |       |                        |
|----------|---------------------------|-------|------------------------|
| CB       | CATCH BASIN               | MAX.  | MAXIMUM                |
| CONST.   | CONSTRUCT                 | MIN.  | MINIMUM                |
| COORD.   | COORDINATE                | PDMH  | PROPOSED DRAIN MANHOLE |
| DIA.     | DIAMETER                  | S     | SLOPE                  |
| DMH      | DRAIN MANHOLE             | SMH   | SEWER MANHOLE          |
| ELEV.    | ELEVATION                 | TB    | TOP OF BANK            |
| FES      | FLARED END SECTION        | TR    | TOP OF RIFLE           |
| HDPE     | HIGH-DENSITY POLYETHYLENE | TBR   | TO BE REMOVED          |
| INV.     | INVERT                    | THLWG | THALWEG                |
| INV. IN  | INVERT IN                 | TW    | TOP OF WALL            |
| INV. OUT | INVERT OUT                | TYP.  | TYPICAL                |
| LF       | LINEAR FEET               | VIF   | VERIFY IN FIELD        |
|          |                           | W     | WITH                   |
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**PERMIT DRAWINGS**

**TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS**

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Salem, New Hampshire

**VERIFY SCALE**  
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13	8/15/2018	REV. PER TOWN COMMENTS
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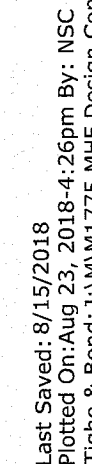
**WEST CHANNEL POLICY BROOK GRADING & DRAINAGE PLAN**

SCALE: AS SHOWN

**C.401D**

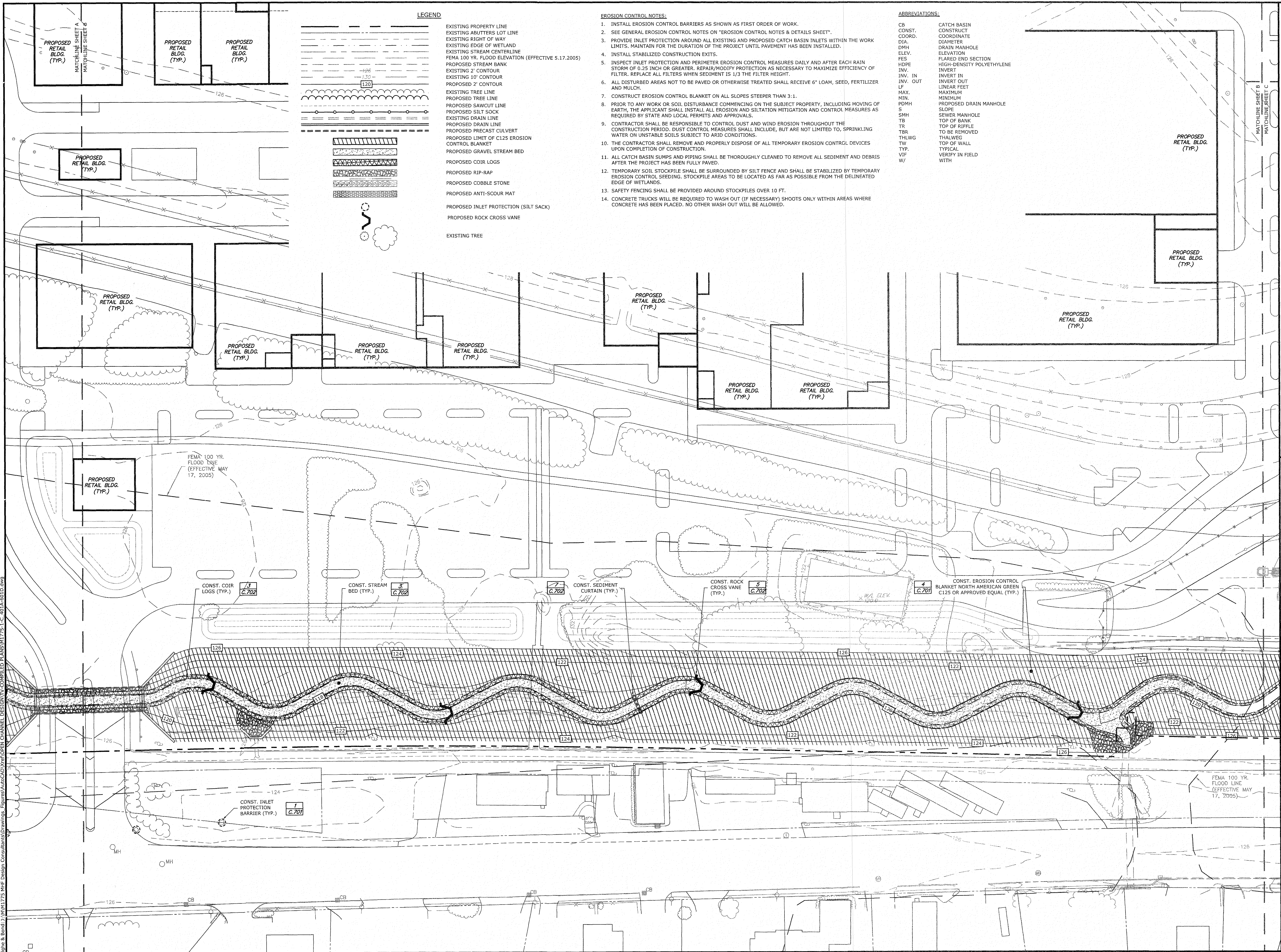
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See Sheet 10/15/2018  
Printed On Aug 23, 2018 4:27pm By: NSC  
Tighe & Bond - M1775-1-C\_401A-601D.dwg



LEGEND

- EXISTING PROPERTY LINE  
EXISTING ABUTTERS LOT LINE  
EXISTING RIGHT OF WAY  
EXISTING EDGE OF WETLAND  
EXISTING STREAM CENTERLINE  
FEMA 100 YR. FLOOD ELEVATION (EFFECTIVE 5.17.2005)  
PROPOSED STREAM BANK  
EXISTING 2' CONTOUR  
EXISTING 10' CONTOUR  
PROPOSED 2' CONTOUR  
EXISTING TREE LINE  
PROPOSED TREE LINE  
PROPOSED SAWCUT LINE  
PROPOSED SILT SOCK  
EXISTING DRAIN LINE  
PROPOSED DRAIN LINE  
PROPOSED PRECAST CULVERT  
PROPOSED LIMIT OF C125 EROSION CONTROL BLANKET  
PROPOSED GRAVEL STREAM BED  
PROPOSED COIR LOGS  
PROPOSED RIP-RAP  
PROPOSED COBBLE STONE  
PROPOSED ANTI-SCOUR MAT  
PROPOSED INLET PROTECTION (SILT SACK)  
PROPOSED ROCK CROSS VANE  
EXISTING TREE

EROSION CONTROL NOTES:

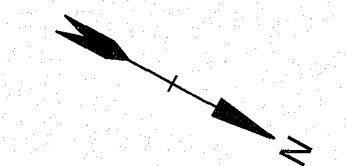
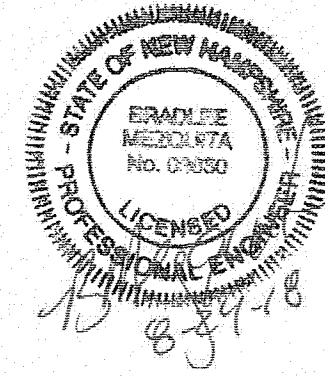
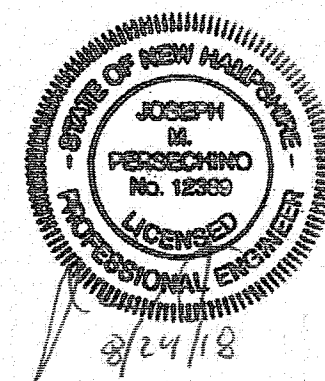
1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION EXITS.
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
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13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.

ABBREVIATIONS:

- |          |                           |
|----------|---------------------------|
| CB       | CATCH BASIN               |
| CONST.   | CONSTRUCT                 |
| COORD.   | COORDINATE                |
| DIA.     | DIAMETER                  |
| DMH      | DRAIN MANHOLE             |
| ELEV.    | ELEVATION                 |
| FES      | FLARED END SECTION        |
| HDPE     | HIGH-DENSITY POLYETHYLENE |
| INV.     | INVERT                    |
| INV. IN  | INVERT IN                 |
| INV. OUT | INVERT OUT                |
| LF       | LINEAR FEET               |
| MAX.     | MAXIMUM                   |
| MIN.     | MINIMUM                   |
| PDMH     | PROPOSED DRAIN MANHOLE    |
| S        | SLOPE                     |
| SMH      | SEWER MANHOLE             |
| TB       | TOP OF BANK               |
| TR       | TOP OF RIFLE              |
| TBR      | TO BE REMOVED             |
| THLWEG   | THALWEG                   |
| TW       | TOP OF WALL               |
| TYP.     | TYPICAL                   |
| VIF      | VERIFY IN FIELD           |
| W/       | WITH                      |

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www.tighebond.com

**MHF Design Consultants, Inc.**



SCALE IN FEET  
0 40' 80'  
GRAPHIC SCALE

PERMIT DRAWINGS

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**



**OMJ REALTY, LLC**  
Salem, New Hampshire

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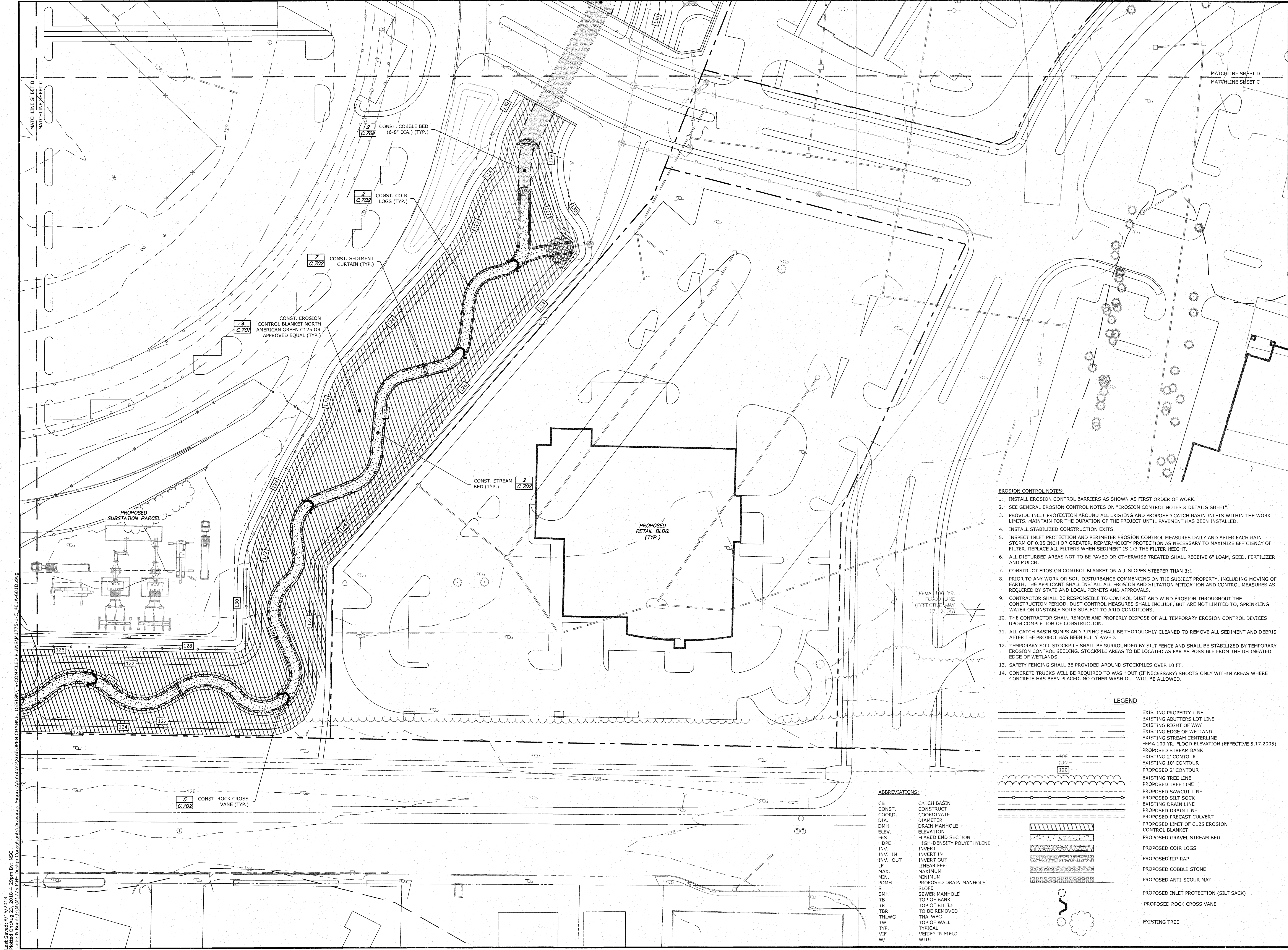
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8	8/15/2018	REV. PER TOWN COMMENTS
7	3/12/2018	REV. PER TOWN COMMENTS
6	11/17/2017	ISSUED FOR PRICING
5	5/8/2017	REV. PER NHDES COMMENTS
4	3/24/2017	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1
PROJECT NO:	M-1775-1	
DATE:	11/28/2016	
FILE:	M1775-1-C_401A-601D.dwg	
DRAWN BY:	NSC	
CHECKED:	JMP	
APPROVED:	BLM	

**POLICY BROOK EROSION  
CONTROL PLAN**

SCALE: AS SHOWN

**C.501B**



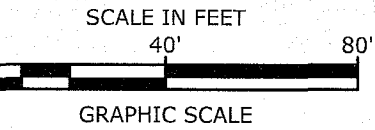
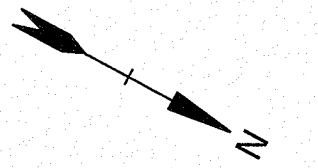
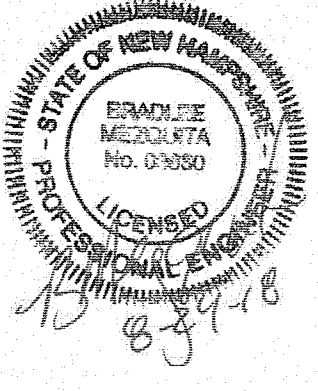


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LEGEND	
	EXISTING PROPERTY LINE
	EXISTING ABUTTERS LOT LINE
	EXISTING RIGHT OF WAY
	EXISTING EDGE OF WETLAND
	EXISTING STREAM CENTERLINE
	FEMA 100 YR. FLOOD ELEVATION (EFFECTIVE 5.17.2005)
	PROPOSED STREAM BANK
	EXISTING 2' CONTOUR
	EXISTING 10' CONTOUR
	PROPOSED 2' CONTOUR
	EXISTING TREE LINE
	PROPOSED TREE LINE
	PROPOSED SAWCUT LINE
	PROPOSED SILT SOCK
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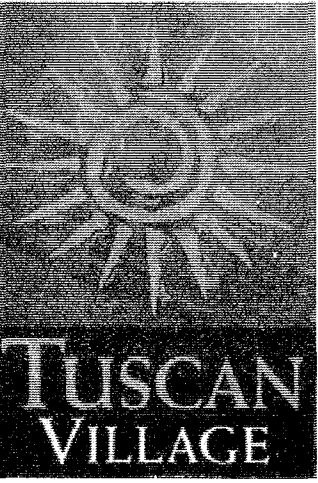
ABBREVIATIONS:	
CB	CATCH BASIN
CONST.	CONSTRUCT
COORD.	COORDINATE
DIA.	DIAMETER
DMAH	DRAIN MANHOLE
ELEV.	ELEVATION
FES	FLARED END SECTION
HDPE	HIGH-DENSITY POLYETHYLENE
INV.	INVERT
INV. IN	INVERT IN
INV. OUT	INVERT OUT
LF	LINEAR FEET
MAX.	MAXIMUM
MIN.	MINIMUM
PDMH	PROPOSED DRAIN MANHOLE
SMH	SEWER MANHOLE
TB	TOP OF BANK
TR	TOP OF RIFFLE
TBR	TO BE REMOVED
THLWG	THALWEG
TW	TOP OF WALL
TYP.	TYPICAL
VIF	VERIFY IN FIELD
W/	WITH

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PERMIT DRAWINGS

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**

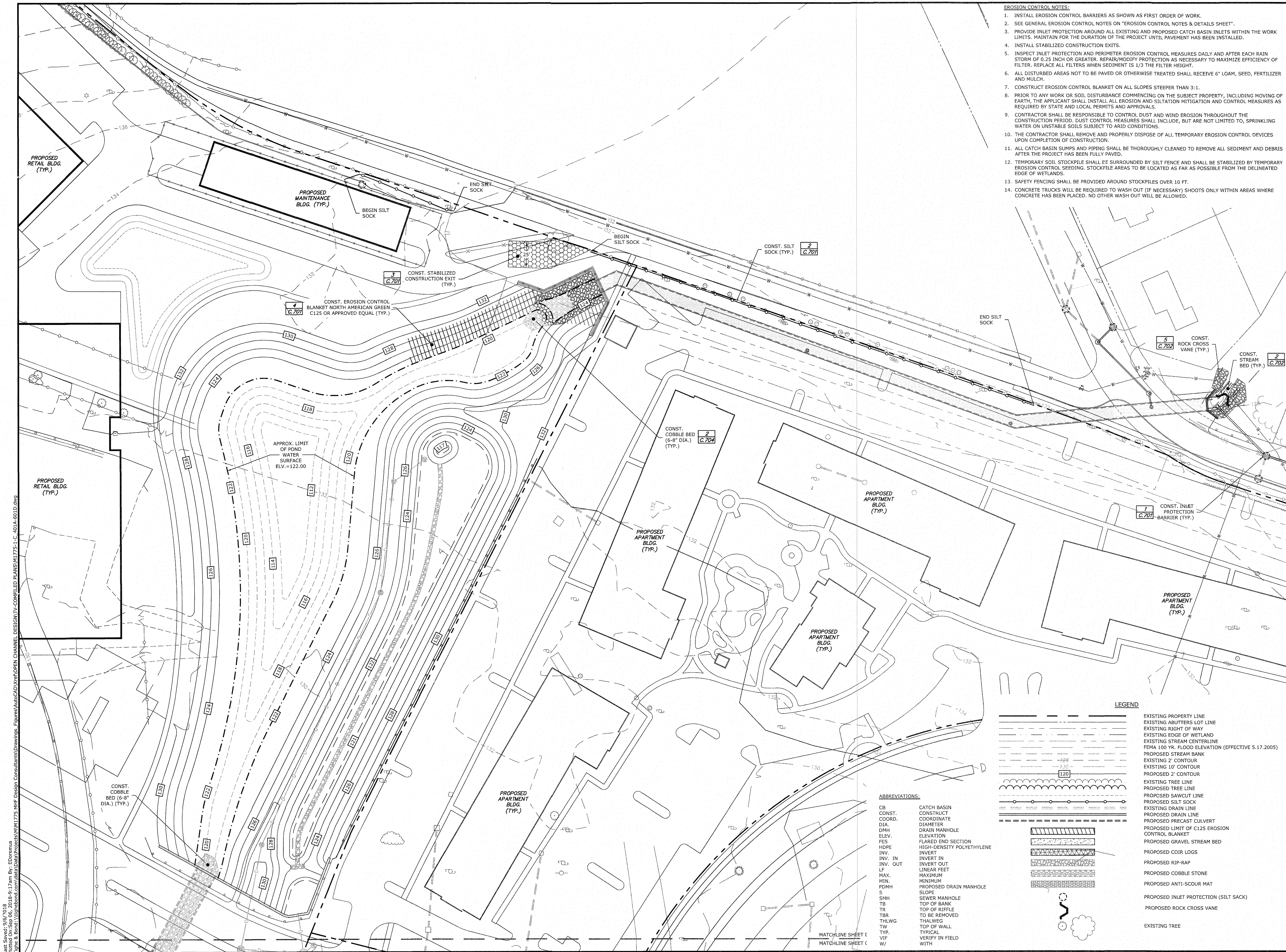


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Salem, New Hampshire

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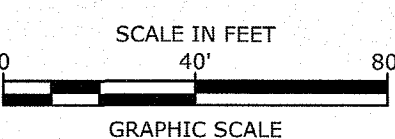
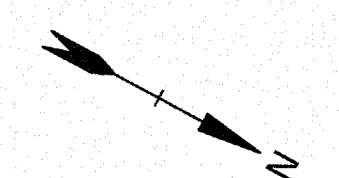
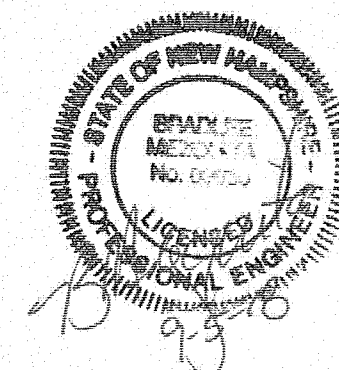
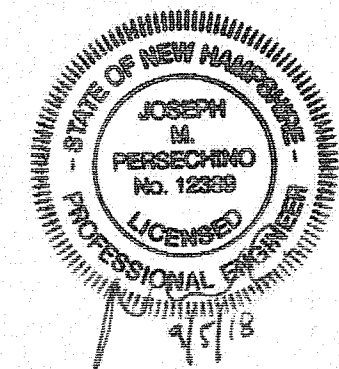
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2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1
PROJECT NO: M-1775-1		
DATE: 11/28/2016		
FILE: M1775-1-C_401A-601D.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		
WEST CHANNEL POLICY BROOK EROSION CONTROL PLAN		
SCALE: AS SHOWN		
C.501C		





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**TUSCAN VILLAGE  
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**LEGEND**

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**ABBREVIATIONS:**

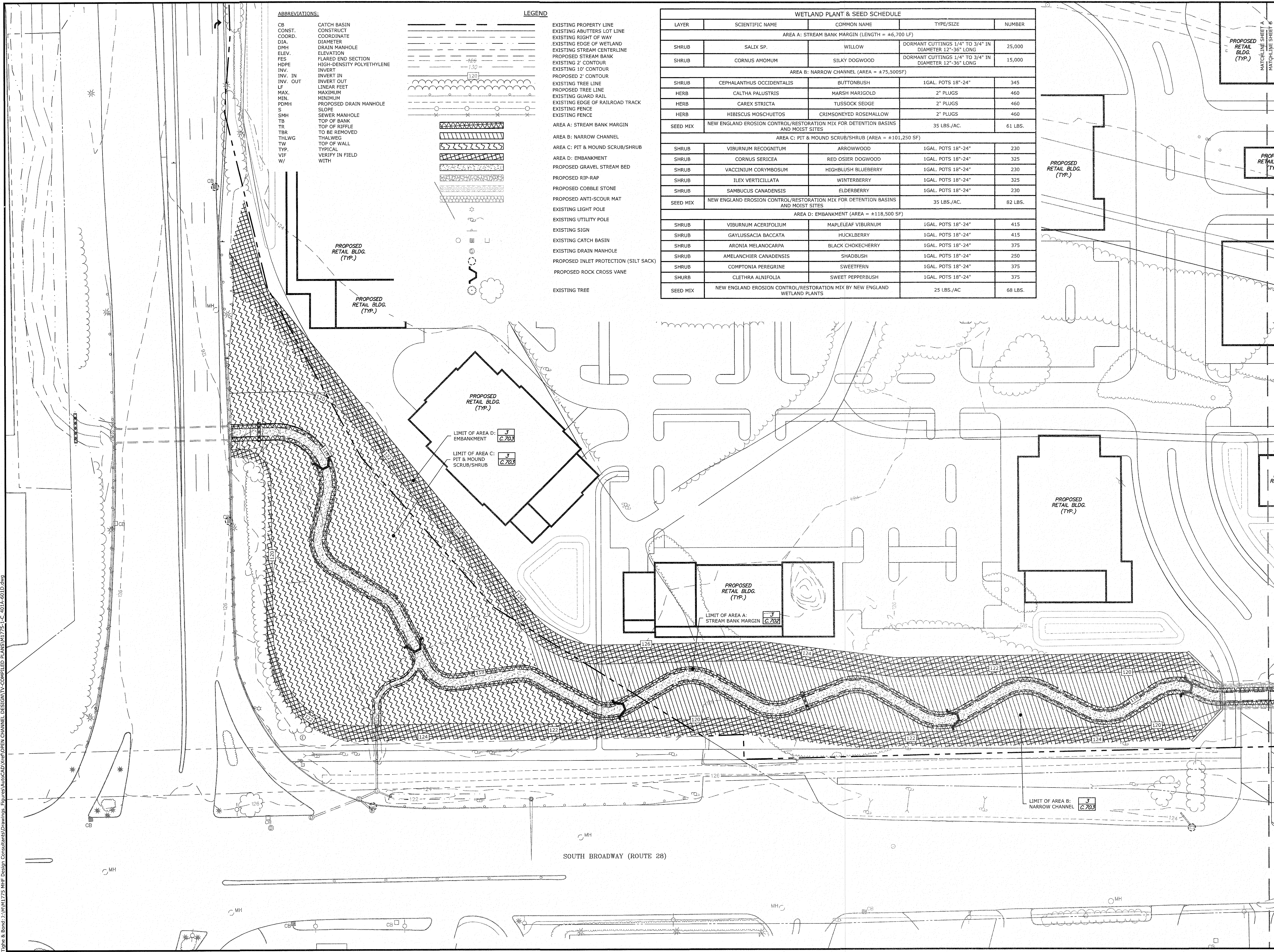
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- ELEV. ELEVATION
- FES FLARED END SECTION
- HPIPE HIGH-DENSITY POLYETHYLENE
- INV. INVERT
- INV. IN INVERT IN
- INV. OUT INVERT OUT
- LF LINEAR FEET
- MAX. MAXIMUM
- MIN. MINIMUM
- PDMH PROPOSED DRAIN MANHOLE
- S SEWER
- SMH SEWER MANHOLE
- TB TOP OF BANK
- TR TOP OF RIFLE
- TBR TO BE REMOVED
- THLWG THALWEG
- TW TOP OF WALL
- TYP. TYPICAL
- VIF VERIFY IN FIELD
- W/ WITH

MATCHLINE SHEET 1  
MATCHLINE SHEET 2

LAST Saved: 9/6/2018  
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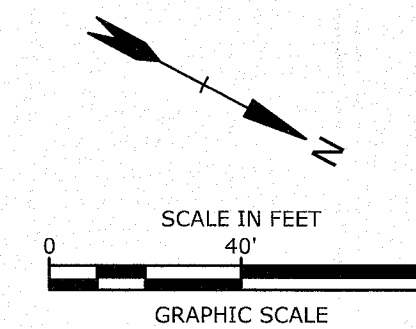


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WETLAND PLANT & SEED SCHEDULE				
LAYER	SCIENTIFIC NAME	COMMON NAME	TYPE/SIZE	NUMBER
AREA A: STREAM BANK MARGIN (LENGTH = ±6,700 LF)				
SHRUB	SALIX SP.	WILLOW	DORMANT CUTTINGS 1/4" TO 3/4" IN DIAMETER 12"-36" LONG	25,000
SHRUB	CORNUS AMOMUM	SILKY DOGWOOD	DORMANT CUTTINGS 1/4" TO 3/4" IN DIAMETER 12"-36" LONG	15,000
AREA B: NARROW CHANNEL (AREA = ±75,500SF)				
SHRUB	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	1GAL. POTS 18"-24"	345
HERB	CALTHA PALUSTRIS	MARSH MARIGOLD	2" PLUGS	460
HERB	CAREX STRICTA	TUSsock SEDGE	2" PLUGS	460
HERB	HIBISCUS MOSCHUETOS	CRIMONEYED ROSEMALLOW	2" PLUGS	460
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES		35 LBS./AC.	61 LBS.
AREA C: PIT & MOUND SCRUB/SHRUB (AREA = ±101,250 SF)				
SHRUB	VIBURNUM RECOGNITUM	ARROWWOOD	1GAL. POTS 18"-24"	230
SHRUB	CORNUS SERICEA	RED OSIER DOGWOOD	1GAL. POTS 18"-24"	325
SHRUB	VACCINIUM CORYMBOSUM	HIGHBLUSH BLUEBERRY	1GAL. POTS 18"-24"	230
SHRUB	ILEX VERTICILLATA	WINTERBERRY	1GAL. POTS 18"-24"	325
SHRUB	SAMBUCUS CANADENSIS	ELDERBERRY	1GAL. POTS 18"-24"	230
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES		35 LBS./AC.	82 LBS.
AREA D: EMBANKMENT (AREA = ±118,500 SF)				
SHRUB	VIBURNUM ACERIFOLIUM	MAPLELEAF VIBURNUM	1GAL. POTS 18"-24"	415
SHRUB	GAYLUSSACIA BACCATA	HUCKLEBERRY	1GAL. POTS 18"-24"	415
SHRUB	ARONIA MELANOCARPA	BLACK CHOKECHERRY	1GAL. POTS 18"-24"	375
SHRUB	AMELANCHIER CANADENSIS	SHADBUSH	1GAL. POTS 18"-24"	250
SHRUB	COMPTONIA PEREGRINE	SWEETFERN	1GAL. POTS 18"-24"	375
SHURB	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	1GAL. POTS 18"-24"	375
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX BY NEW ENGLAND WETLAND PLANTS		25 LBS./AC	68 LBS.

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## TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS



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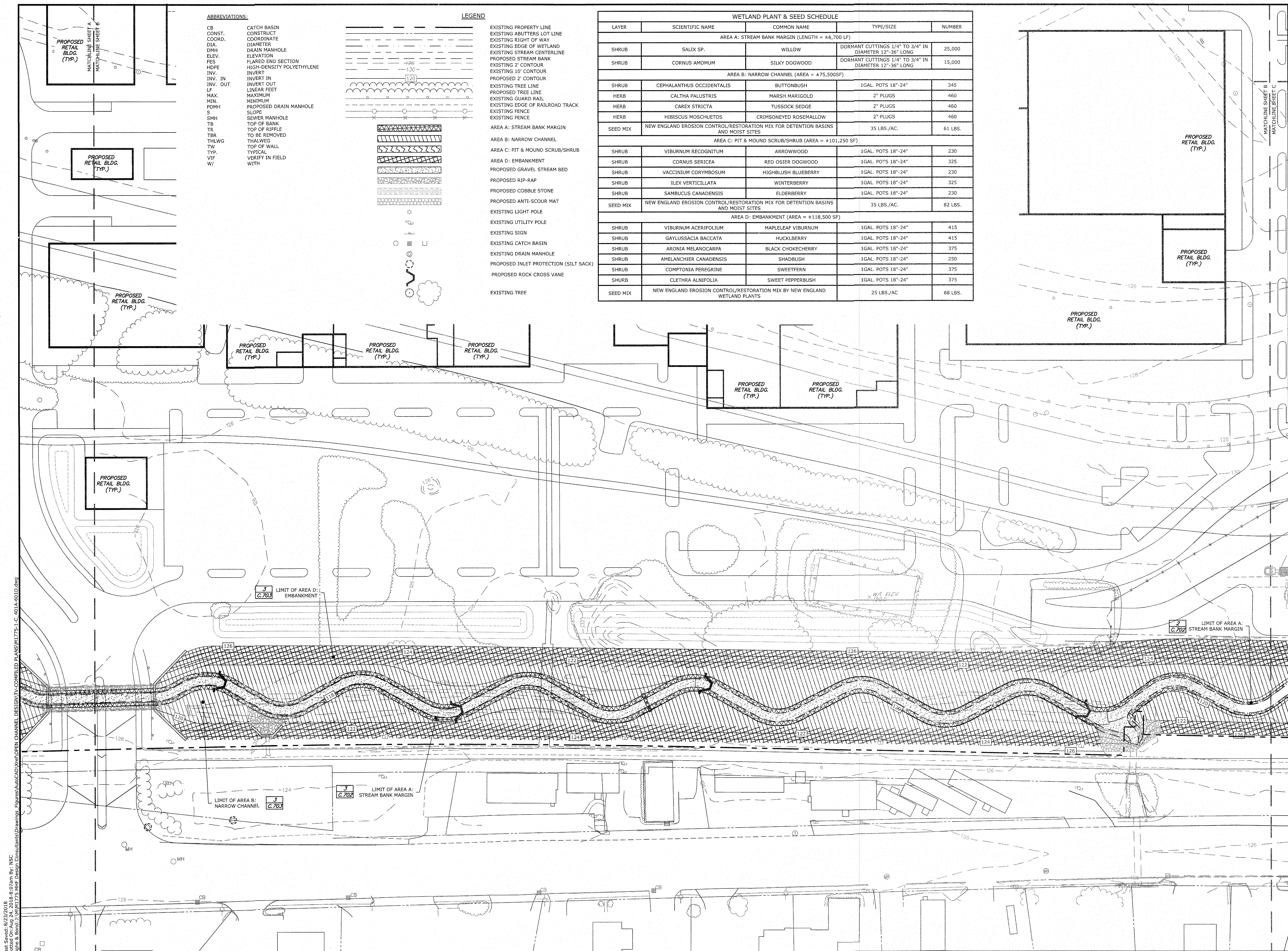
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POLICY BROOK WETLAND  
 PLANTING PLAN

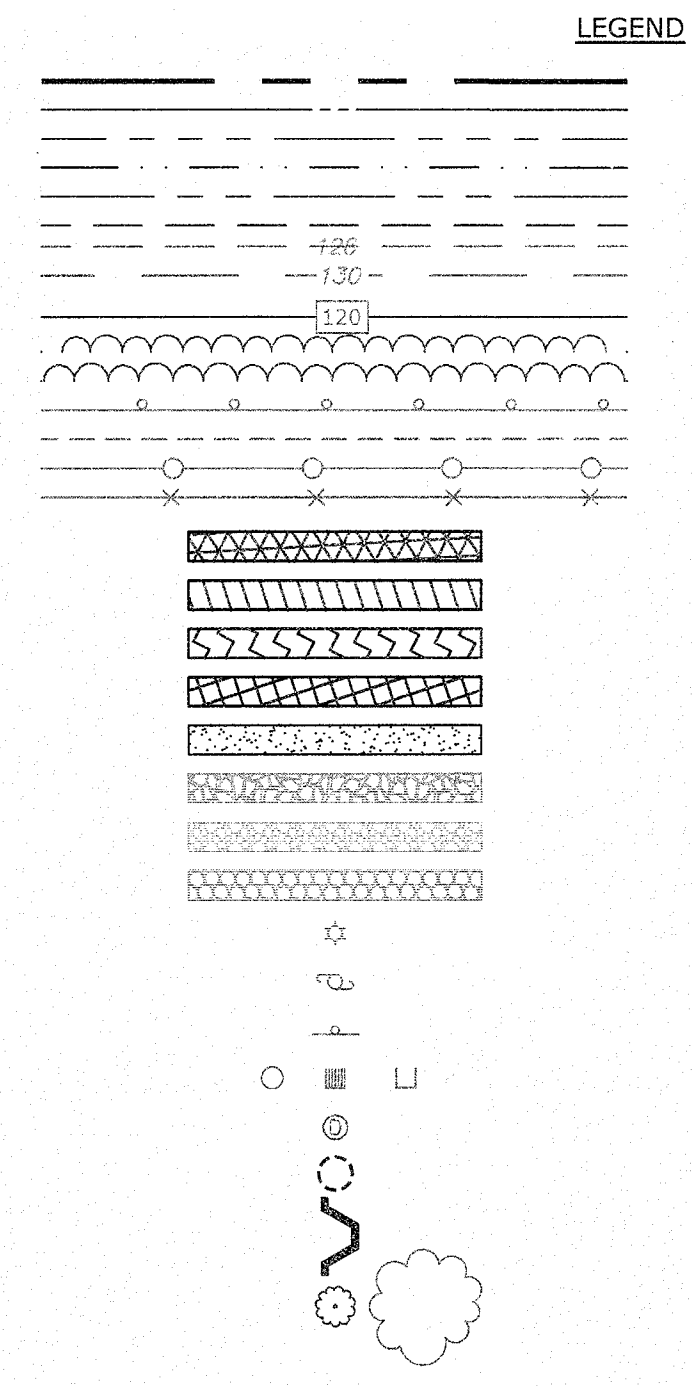
SCALE: AS SHOWN

C.601A





- ABBREVIATIONS:**
- CB CONST. COORD.
  - DIA. DIAMETER
  - DMH DRAIN MANHOLE
  - ELEV. ELEVATION
  - FES FLARED END SECTION
  - HDPE HIGH-DENSITY POLYETHYLENE
  - INV. INVERT
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SHRUB	CORNUS SERICEA	RED OSIER DOGWOOD	1GAL. POTS 18"-24"	325
SHRUB	VACCINIUM CORYMBOSUM	HIGHBLUSH BLUEBERRY	1GAL. POTS 18"-24"	230
SHRUB	ILEX VERTICILLATA	WINTERBERRY	1GAL. POTS 18"-24"	325
SHRUB	SAMBUCUS CANADENSIS	ELDERBERRY	1GAL. POTS 18"-24"	230
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES		35 LBS./AC.	82 LBS.
AREA D: EMBANKMENT (AREA = #118,500 SF)				
SHRUB	VIBURNUM ACERIFOLIUM	MAPLELEAF VIBURNUM	1GAL. POTS 18"-24"	415
SHRUB	GAYLUSSACIA BACCATA	HUCKLEBERRY	1GAL. POTS 18"-24"	415
SHRUB	ARONIA MELANOCARPA	BLACK CHOKECHERRY	1GAL. POTS 18"-24"	375
SHRUB	AMELANCHIER CANADENSIS	SHADBUSH	1GAL. POTS 18"-24"	250
SHRUB	COMPTONIA PEREGRINE	SWEETFERN	1GAL. POTS 18"-24"	375
SHURB	CLETHRA ALNIFOLIA	SWEET PEPPERBUSH	1GAL. POTS 18"-24"	375
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX BY NEW ENGLAND WETLAND PLANTS		25 LBS./AC	68 LBS.

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SCALE IN FEET  
0 40' 80'  
GRAPHIC SCALE

**PERMIT DRAWINGS**

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**

**OMJ REALTY, LLC**  
Salem, New Hampshire

**VERIFY SCALE**  
BAR IS 1 INCH ON ORIGINAL DRAWING  
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MARK	DATE	DESCRIPTION
6	8/24/2018	REV. PER NHDOT COMMENTS
5	3/12/2018	REV. PER TOWN COMMENTS
4	11/17/2017	ISSUED FOR PRICING
3	5/8/2017	REV. PER NHDOS COMMENTS
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCDD REVIEW #1

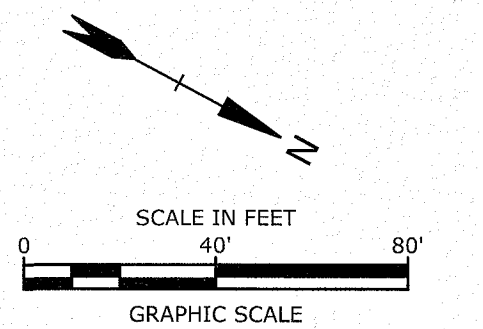
**POLICY BROOK WETLAND  
PLANTING PLAN**

SCALE: AS SHOWN

**C.601B**

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# TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS

**VERIFY SCALE**

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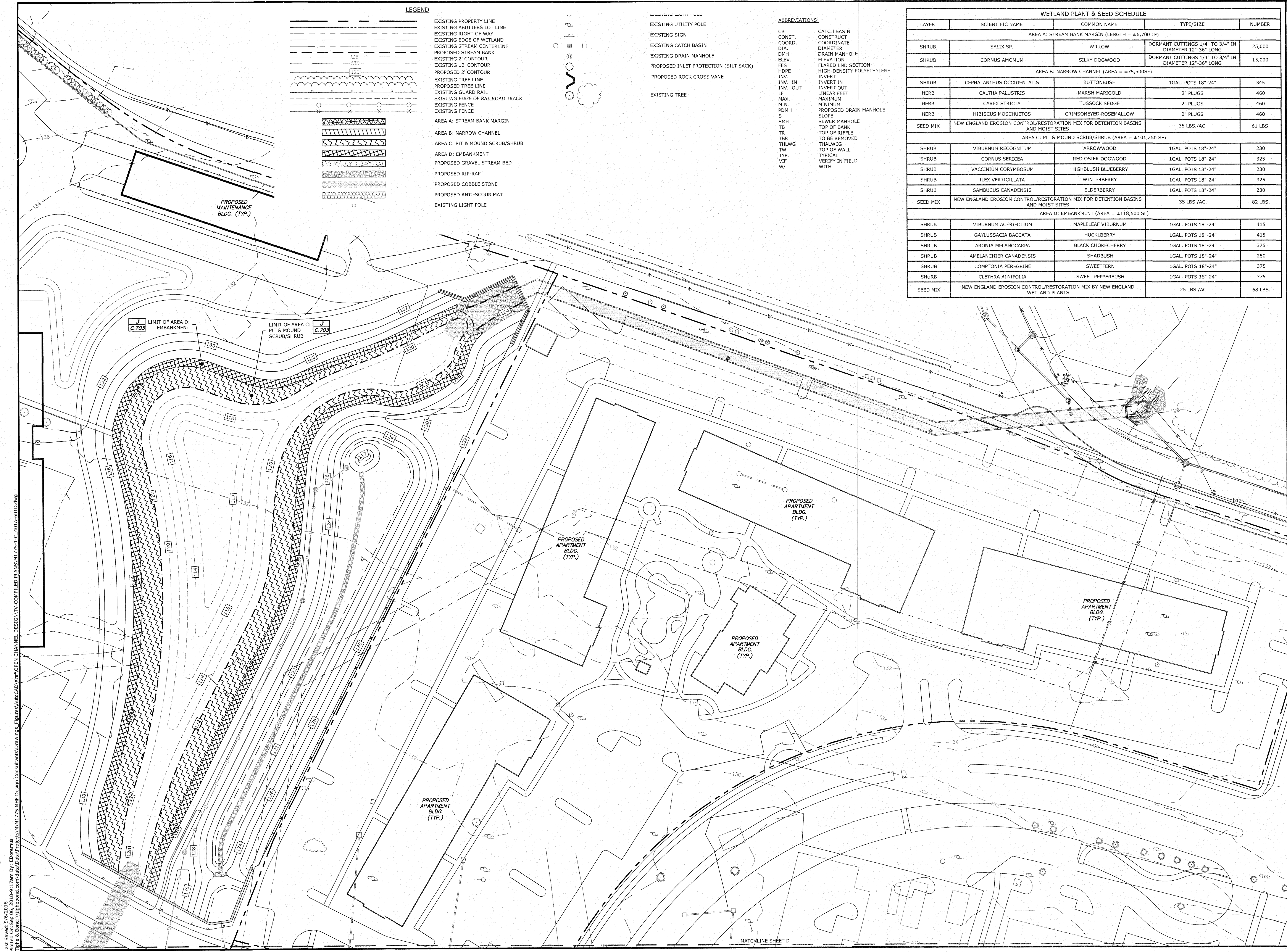
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THIS SHEET, ADJUST  
SCALES ACCORDINGLY

WETLAND PLANT & SEED SCHEDULE				
LAYER	SCIENTIFIC NAME	COMMON NAME	TYPE/SIZE	NUMBER
AREA A: STREAM BANK MARGIN (LENGTH = #6,700 LF)				
SHRUB	SALIX SP.	WILLOW	DORMANT CUTTINGS 1/4" TO 3/4" IN DIAMETER 12"-36" LONG	25,000
SHRUB	CORNUS AMOMUM	SILKY DOGWOOD	DORMANT CUTTINGS 1/4" TO 3/4" IN DIAMETER 12"-36" LONG	15,000
AREA B: NARROW CHANNEL (AREA = #75,500SF)				
SHRUB	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	1GAL. POTS 18"-24"	345
HERB	CALTHA PALUSTRIS	MARSH MARIGOLD	2" PLUGS	460
HERB	CAREX STRICTA	TUSsock SEDGE	2" PLUGS	460
HERB	HIBISCUS MOSCHUETOS	CRIMSONEYED ROSEMALLOW	2" PLUGS	460
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES		35 LBS./AC.	61 LBS.
AREA C: PIT & MOUND SCRUB/SHRUB (AREA = #101,250 SF)				
SHRUB	VIBURNUM RECOGNITUM	ARROWWOOD	1GAL. POTS 18"-24"	230
SHRUB	CORNUS SERICEA	RED OSIER DOGWOOD	1GAL. POTS 18"-24"	325
SHRUB	VACCINIUM CORMBOSUM	HIGHBLUSH BLUEBERRY	1GAL. POTS 18"-24"	230
SHRUB	ILEX VERTICILLATA	WINTERBERRY	1GAL. POTS 18"-24"	325
SHRUB	SAMBUCUS CANADENSIS	ELDERBERRY	1GAL. POTS 18"-24"	230
SEED MIX	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES		35 LBS./AC.	82 LBS.
AREA D: EMBANKMENT (AREA = #118,500 SF)				
SHRUB	VIBURNUM ACERIFOLIUM	MAPLEAF VIBURNUM	1GAL. POTS 18"-24"	415
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SHRUB	ARONIA MELANOCARPA	BLACK CHOKECHERRY	1GAL. POTS 18"-24"	375
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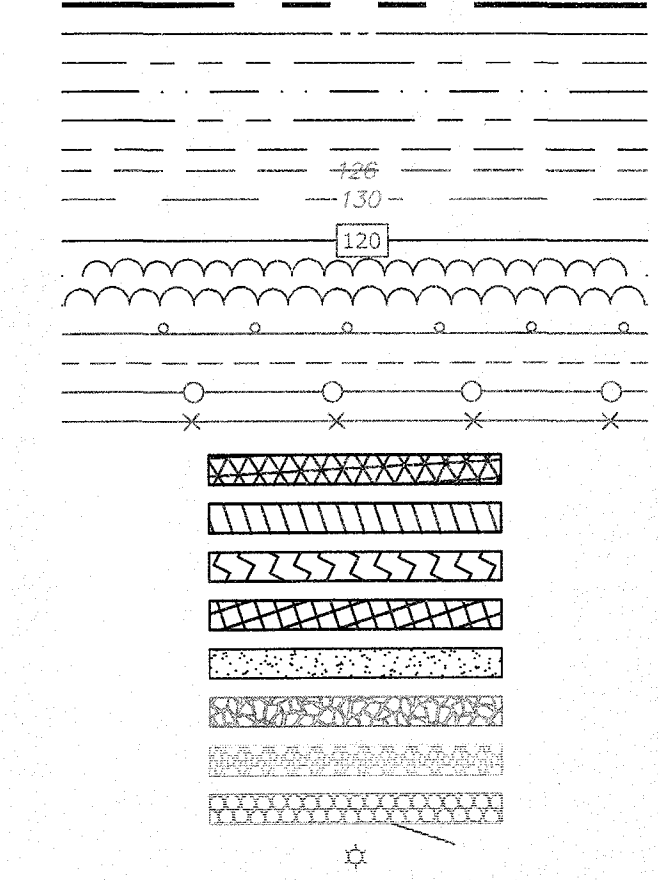
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LEGEND



EXISTING PROPERTY LINE  
EXISTING ABUTTERS LOT LINE  
EXISTING RIGHT OF WAY  
EXISTING EDGE OF WETLAND  
EXISTING STREAM CENTERLINE  
PROPOSED STREAM BANK  
EXISTING 2' CONTOUR  
EXISTING 10' CONTOUR  
PROPOSED 2' CONTOUR  
EXISTING TREE LINE  
PROPOSED TREE LINE  
EXISTING GUARD RAIL  
EXISTING EDGE OF RAILROAD TRACK  
EXISTING FENCE  
EXISTING FENCE  
AREA A: STREAM BANK MARGIN  
AREA B: NARROW CHANNEL  
AREA C: PIT & MOUND SCRUB/SHRUB  
AREA D: EMBANKMENT  
PROPOSED GRAVEL STREAM BED  
PROPOSED RIP-RAP  
PROPOSED COBBLE STONE  
PROPOSED ANTI-SCOUR MAT  
EXISTING LIGHT POLE

EXISTING UTILITY POLE  
EXISTING SIGN  
EXISTING CATCH BASIN  
EXISTING DRAIN MANHOLE  
PROPOSED INLET PROTECTION (SILT SACK)  
PROPOSED ROCK CROSS VANE  
EXISTING TREE

ABBREVIATIONS:

CB CONST. COORD.  
DIA. DIAMETER  
DMH DRAIN MANHOLE  
ELEV. ELEVATION  
FES FLARED END SECTION  
HDPE HIGH-DENSITY POLYETHYLENE  
INV. INVERT  
INV. IN INVERT IN  
INV. OUT INVERT OUT  
LF LINEAR FEET  
MAX. MAXIMUM  
MIN. MINIMUM  
PDMH PROPOSED DRAIN MANHOLE  
S SLOPE  
SMH SEWER MANHOLE  
TB TOP OF BANK  
TR TOP OF RIFLE  
TBR TO BE REMOVED  
THLWG THALWEG  
TW TOP OF WALL  
TYP. TYPICAL  
VIF VERIFY IN FIELD  
W/ WITH

WETLAND PLANT & SEED SCHEDULE

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SCALE IN FEET  
0 40' 80'  
GRAPHIC SCALE

PERMIT DRAWINGS

**TUSCAN VILLAGE  
FLOODPLAIN  
IMPROVEMENTS**

**TUSCAN VILLAGE**

OMJ REALTY, LLC  
Salem, New Hampshire

VERIFY SCALE  
BAR IS 1 INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

10	9/5/2018	REV. GUARDRAIL LOCATION
9	8/24/2018	REV. PER NHDOT COMMENTS
8	3/12/2018	REV. PER TOWN COMMENTS
7	11/20/2017	REV. IMPACT AREAS
6	11/17/2017	ISSUED FOR PRICING
5	11/3/2017	REV. IMPACT AREAS
4	5/8/2017	REV. PER NHDES COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCDD REVIEW #1
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DATE: 11/28/2016		
FILE: M1775-1-C_401A-601D.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		
<b>WEST CHANNEL POLICY BROOK WETLAND PLANTING PLAN</b>		
SCALE: AS SHOWN		
<b>C.601D</b>		

MATCHLINE SHEET D



Last Saved: 3/13/2018  
Printed On: Mar 13, 2018 8:57:01am By: NSC  
Tighe & Bond 231 Main Street  
Salem, NH 03079  
Erosion Control Blanket Details Drawings - Figures A through C  
Channel Design/Compiled Plans M1775-1-C-701-705.dwg

PROJECT NAME AND LOCATION

TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS  
79 ROCKINGHAM PARK BOULEVARD  
SALEM, NH 03079

42°-46'-19"N  
71°-13'-26"W

DESCRIPTION

THE PROJECT CONSISTS OF THE REMOVAL OF EXISTING CULVERTS THAT CONVEY WEST CHANNEL AND POLICY BROOK AND TO DAYLIGHT APPROXIMATELY 6,600 LINEAR FEET OF STREAM. THE PROJECT ALSO INCLUDES THE CONSTRUCTION OF A LARGE RECREATIONAL POND UPSTREAM OF THE STREAM. THE CONSTRUCTION OF THE WORK IS ANTICIPATED TO START IN SPRING 2017, AND BE COMPLETED BY SUMMER 2018.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 18.8 ACRES.

NAME OF RECEIVING WATERS

THE STORM WATER RUNOFF WILL DISCHARGE INTO POLICY BROOK.

SEQUENCE OF MAJOR ACTIVITIES

- IF PRACTICAL, ALL STREAM CROSSING WORK SHALL OCCUR DURING LOW FLOW PERIODS OF THE BROOK.
- INSTALL ALL EROSION AND SEDIMENT CONTROL BARRIERS AS FIRST ORDER OF WORK.
- CONSTRUCT THE PROPOSED STREAM CHANNEL.
- CONSTRUCT ANY REQUIRED COFFERDAMS AND/OR DEWATERING PRACTICES REQUIRED FOR THE CONSTRUCTION OF THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION.
- CONSTRUCT THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION AND REMOVE ANY COFFERDAMS AND/OR DEWATERING MEASURES.
- CONSTRUCT THE FINAL GRADING ABOVE AND ADJACENT TO THE STREAM CROSSING.
- WHEN THE AREA IS COMPLETELY STABILIZED, REMOVE THE EROSION AND SEDIMENT CONTROL BARRIERS.

NOTES:

- THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).

EROSION CONTROL NOTES

- ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
- PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
- CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALE, SILT FENCES, SILT SACKS AND SILT SOCKS, AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
- SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
- PERIMETER CONTROLS INCLUDING SILT FENCES, HAY BALE BARRIERS, AND/OR SILT SOCKS SHALL MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
- THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
- ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED, AND FERTILIZER.
- INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/2 THE FILTER HEIGHT.
- CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION

- AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
  - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
  - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
  - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
  - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- WINTER STABILIZATION PRACTICES:
  - ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE, THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ACCORDANCE OF THAW OR SPRING MELT EVENTS.
  - AFTER NOVEMBER 15TH, OVERSTOCKED AREAS SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.
- STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
  - TEMPORARY SEEDING
  - MULCHING
- WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES AND HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
- DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH HAY BALE BARRIERS AND SILT FENCES OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.

DUST CONTROL:

- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
- DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
- DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST.

STOCKPILES

- LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
- ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
- PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING

THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION

- TEMPORARY GRASS COVER
  - SEEDBED PREPARATION:
    - APPLY FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OF 10-10-10. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF THREE (3) TONS PER ACRE.
  - SEEDING
  - UTILIZE ANNUAL RYE GRASS AT A RATE OF 40 LBS/ACRE
  - WHERE THE SOIL HAS BEEN CONTACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
  - APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER), HYDROSEEDINGS, WHICH INCLUDE MULCH, MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10% WHEN HYDROSEEDING.
- MAINTENANCE
  - TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 95% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).
- VEGETATIVE PRACTICE
  - FOR PERMANENT MEASURES AND PLANTINGS.
- LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5.
- FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER.
- SOIL CONDITIONS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLL WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.
- HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE.
- THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEDED, AND ALL NOXIOUS WEEDS REMOVED.
- THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED.
- SEE WETLAND PLANTING PLAN FOR SEED MIXTURE TO BE USED.
- DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL)
- FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA

- THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE.
  - THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY.
  - IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER.
- CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS.
- INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES

- DISCHARGES FROM FIRE-FIGHTING ACTIVITIES
- FIRE HYDRANT FLUSHINGS
- WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
- WATER USED TO CONTROL DUST
- POTABLE WATER INC. UNCONTAMINATED WATER LINE FLUSHINGS
- ROUTINE EXTERNAL BUILDING WASH DOWN -NO DETERGENTS
- PAVEMENT WASH WATERS -NO SPILLS OR DETERGENTS
- UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATE
- UNCONTAMINATED GROUND WATER OR SPRING WATER
- FOUNDATION OR FOOTING DRAINS -NOT CONTAMINATED
- UNCONTAMINATED EXCAVATION DEWATERING
- LANDSCAPE IRRIGATION

WASTE DISPOSAL

- WASTE MATERIALS
  - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPTER.
  - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE.
  - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
- HAZARDOUS WASTE
  - ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER.
  - SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
- SANITARY WASTE
  - ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION

- CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
- THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
  - GOOD HOUSEKEEPING:
    - THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:
      - ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE.
      - ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
      - MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
      - THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
      - WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
    - HAZARDOUS PRODUCTS:
      - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
        - PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
        - ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
      - PRODUCT SPECIFICATION PRACTICES
        - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
          - PETROLEUM PRODUCTS:
            - ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE.
            - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
          - FERTILIZERS:
            - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS.
            - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER.
          - PAINTS:
            - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE.
            - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM.
            - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
          - SPILL CONTROL PRACTICES
            - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
              - MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
              - MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
              - ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
              - THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
              - SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED.
              - THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
            - VEHICLE FUELING AND MAINTENANCE PRACTICE:
              - CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPMENT/VEHICLE FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY.
              - CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY.
              - IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED.
              - CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA.
              - CONTRACTOR SHALL VEHICLES SHALL BE INSPECTED REGULARLY FOR LEAKS AND DAMAGE.
              - CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRE(S) A SWPPP. THE SWPPP SHALL BE PREPARED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ON-SITE AT ALL TIMES.

THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT.

- OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER.
- AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR.
- A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES.
- IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

BLASTING NOTES

- IF MORE THAN 5000 CUBIC YARDS ARE TO BE BLASTED A BLASTING PLAN SHALL BE PROVIDED. BLASTING PLAN SHALL INCLUDE:
  - LOCATION AND IDENTIFICATION OF DRINKING WATER WELLS LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES.
  - A GROUNDWATER QUALITY SAMPLING PROGRAM, APPROVED BY NHDES PRIOR TO INITIATING BLASTING, TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA.
- THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
- THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
  - LOADING PRACTICES.
    - THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
      - DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS.
      - EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL.
      - SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL.
      - LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED.
      - LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT.
      - EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
    - EXPLOSIVE SELECTION
      - THE FOLLOWING BMPs SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
        - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION.
        - EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER.
        - PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
      - MUCK PILE MANAGEMENT
        - MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
          - REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE.
          - MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER

SUPPLY WELLS OR SURFACE WATER.

- SPILL PREVENTION MEASURES AND SPILL MITIGATION

SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:

- THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
  - STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE;
  - SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
  - LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY;
  - INSPECT STORAGE AREAS WEEKLY;
  - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
  - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS; AND
  - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
- THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
  - EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
  - PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
  - HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
  - USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES; AND
  - PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
- THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
- FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES. THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT OR ITS SUCCESSOR DOCUMENT. (SEE <http://des.nh.gov/organization/commissioner/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF>)

INVASIVE SPECIES

- THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

ABBREVIATIONS:

APPROX.	APPROXIMATE	LF	LINEAR FEET
CB	CATCH BASIN	MAX.	MAXIMUM
CONST.	CONSTRUCT	MIN.	MINIMUM
COORD.	COORDINATE	S	SLOPE
DIA.	DIA.	SMH	SEWER MANHOLE
DMH	DRAIN MANHOLE	TB	TOP OF BANK
ELEV.	ELEVATION	TR	TOP OF RIFFLE
HOPE	HIGH-DENSITY POLYETHYLENE	TBR	TO BE REMOVED
INV.	INVERT	THLWG	THALWEG
HOPE	HIGH-DENSITY POLYETHYLENE	TW	TOP OF WALL
INV. IN	INVERT IN	TYP.	TYPICAL
INV. OUT	INVERT OUT	VIF	VERIFY IN FIELD
		W/	WITH

PLAN VIEW

SECTION VIEW

STABILIZED CONSTRUCTION EXIT

PLAN VIEW

SECTION VIEW

STABILIZED CONSTRUCTION EXIT

1" REBAR FOR BAG REMOVAL FROM INLET

1" REBAR FOR BAG REMOVAL FROM INLET

SILT SACK OR EQUAL

DUMP STRAP (TYP. OF 2)

STABILIZED CONSTRUCTION EXIT

NOTES:

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

PLAN VIEW

SECTION VIEW

STABILIZED CONSTRUCTION EXIT

PLAN VIEW

SECTION VIEW

STABILIZED CONSTRUCTION EXIT

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TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS

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VERIFY SCALE

BAR IS 1 INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

MARK	DATE	DESCRIPTION
5	3/12/2018	REV. PER TOWN COMMENTS
4	11/17/2017	ISSUED FOR PRICING
3	6/20/2017	REV. PER FEMA RFM1
2	3/24/2017	REV. PER TOWN COMMENTS
1	3/9/2017	REV. BOX CULVERT DESIGN

PROJECT NO:

M-1775-1

DATE:

11/28/2016

FILE:

M1775-1-C\_701-705.dwg

DRAWN BY:

NSC

CHECKED:

JMP

APPROVED:

BLM

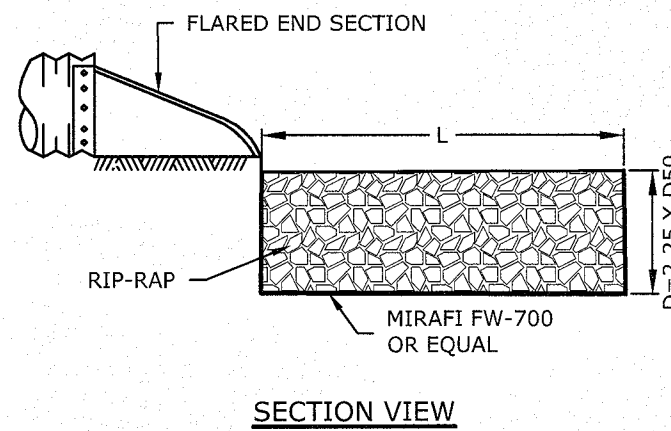
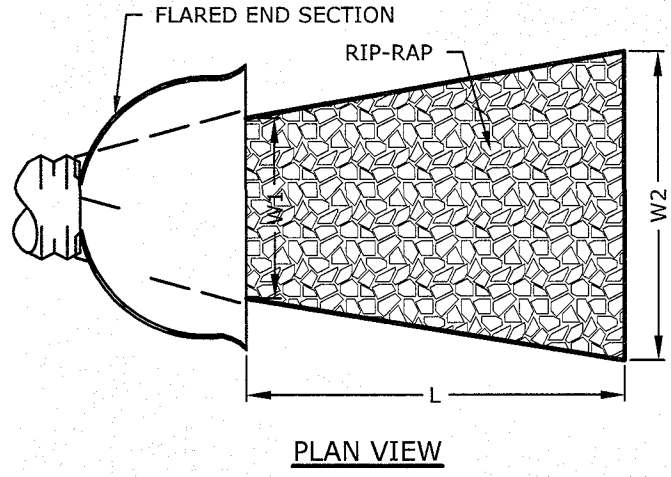
EROSION CONTROL NOTES & DETAILS SHEET

SCALE: AS SHOWN

C.701

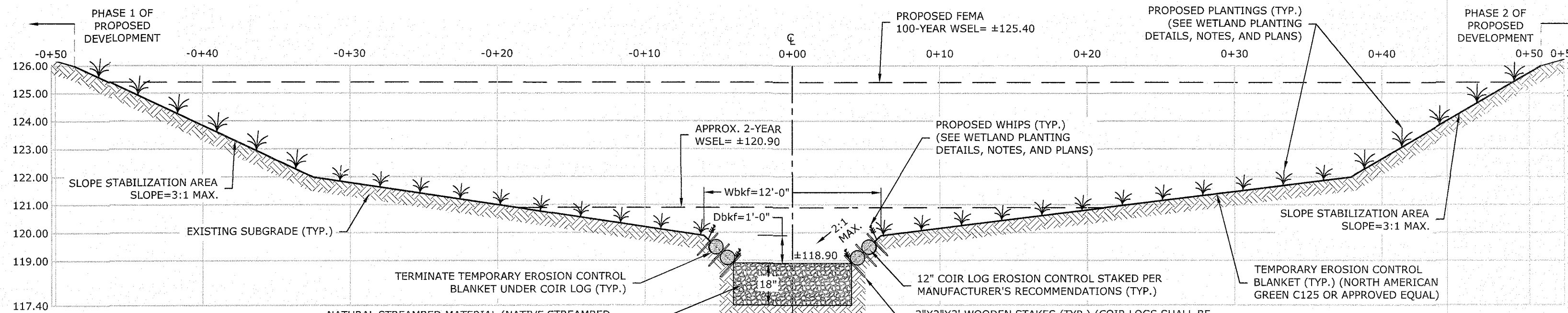
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Tighe & Bond 231 Main Street  
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Erosion Control Blanket Details Drawings - Figures A through C  
Channel Design/Compiled Plans M1775-1-C-701-705.dwg



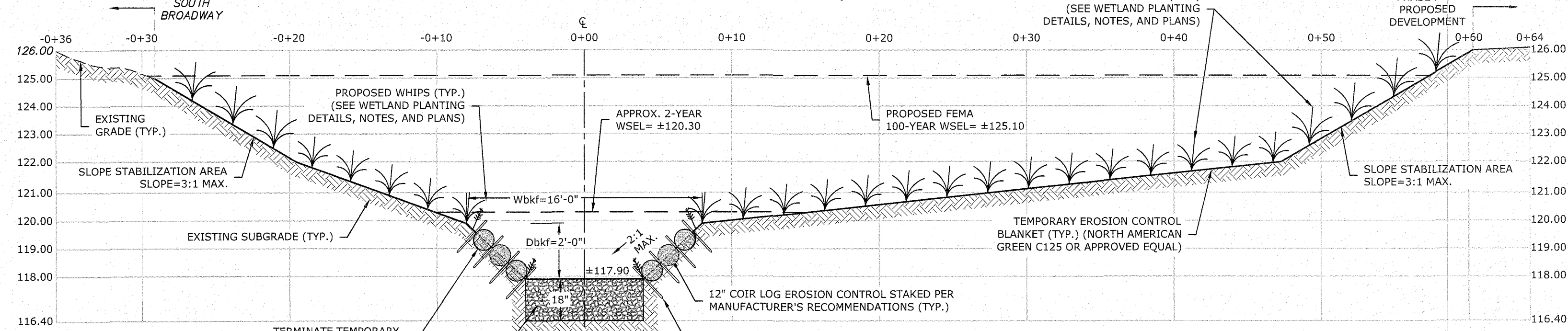


- NOTES:
- STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
  - STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
  - THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

**RIP-RAP APRON DETAIL** 1  
NO SCALE



**WEST CHANNEL POLICY BROOK (STA. 5+00)** 2  
NO SCALE



**POLICY BROOK (STA. 15+00)** 3  
NO SCALE

- NOTES:
- SEE SITE PLAN SHEETS C.501A-C.501D FOR EROSION CONTROL BLANKET TYPE AND LOCATION.
  - SEE WETLAND PLANTING PLAN SHEETS C.601A-C.601D FOR TYPE AND LOCATION OF PLANTS.
  - ALL AREAS TO BE PLANTED SHALL ALSO RECEIVE 6" OF LOAM AND SEED. SEE WETLAND PLANTING SHEETS C.601A-C.601D FOR SEED MIX.

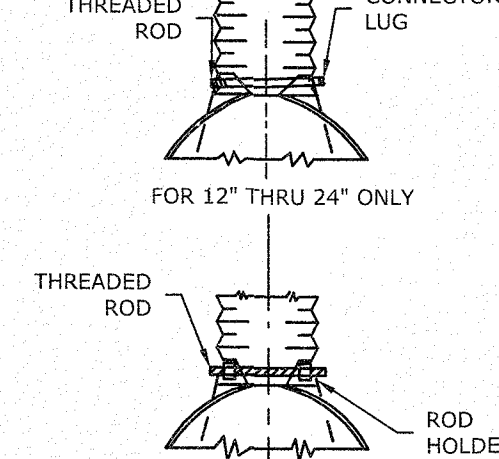
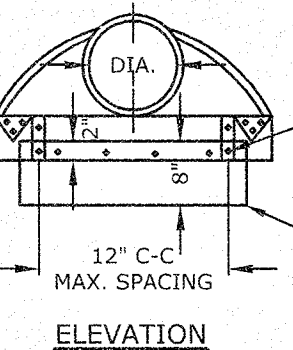
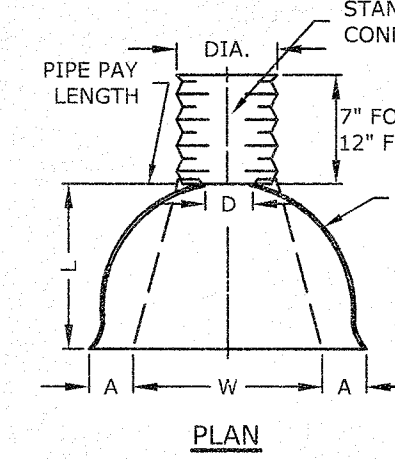
**TYPICAL STREAM CROSS-SECTIONS** 3  
NO SCALE

ABBREVIATIONS:  
Dbkf = BANKFULL DEPTH  
Wbkf = BANKFULL WIDTH  
WSEL = WATER SURFACE ELEVATION

NATURAL STREAMBED MATERIAL:  
NATURAL STREAMBED MATERIAL SHALL BE A SANDY GRAVELLY MIX INTERSPERSED WITH 4-6" COBBLE, MEETING THE FOLLOWING GRADATION:

SIZE	PERCENT PASSING BY WEIGHT
6"	100
#4	15-30
#200	0-12%

\*PERCENT PASSING THE #4 SIEVE

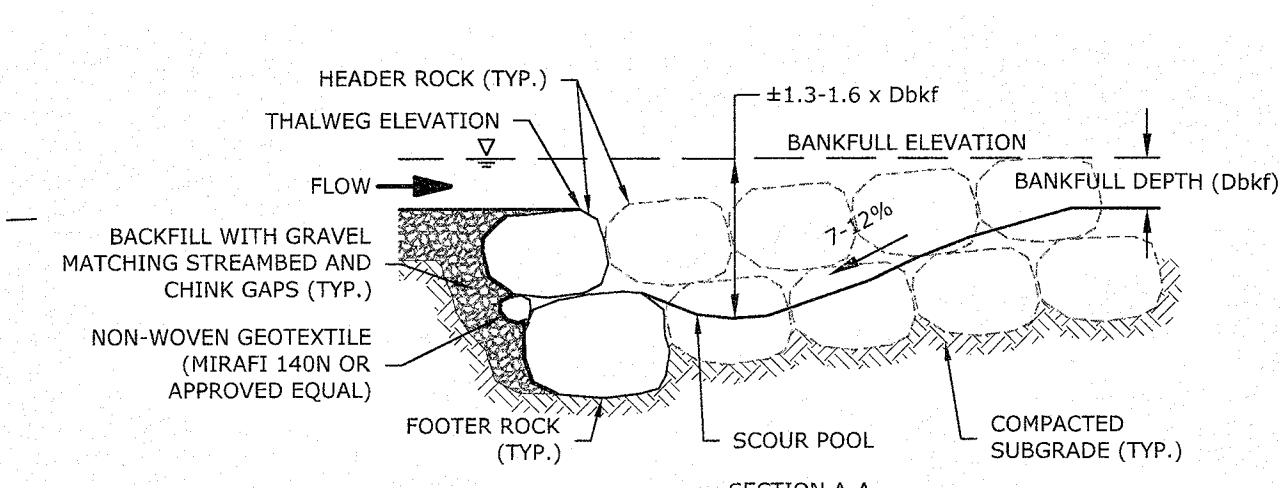
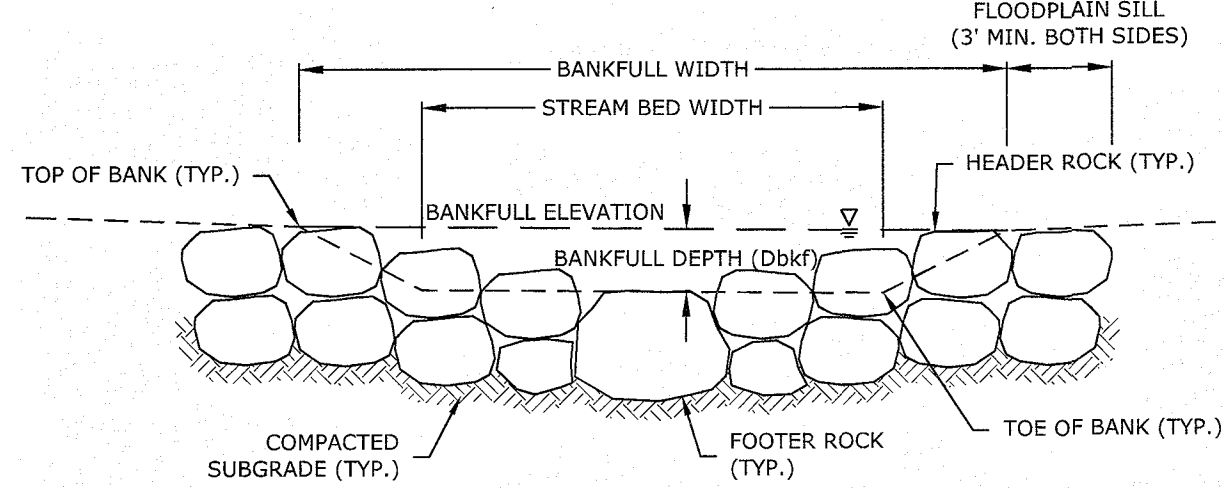


**METAL FLARED END SECTION** 4  
NO SCALE

PIPE DIA.	METAL GAGE	DIMENSIONS				
		A (1" TOL.)	B MAX.	H (1" TOL.)	L (1" TOL.)	W (2" TOL.)
12"	16	6"	6"	6"	21"	24"
15"	16	7"	8"	6"	26"	30"
18"	16	8"	13"	6"	31"	36"
24"	16	10"	16"	6"	41"	48"

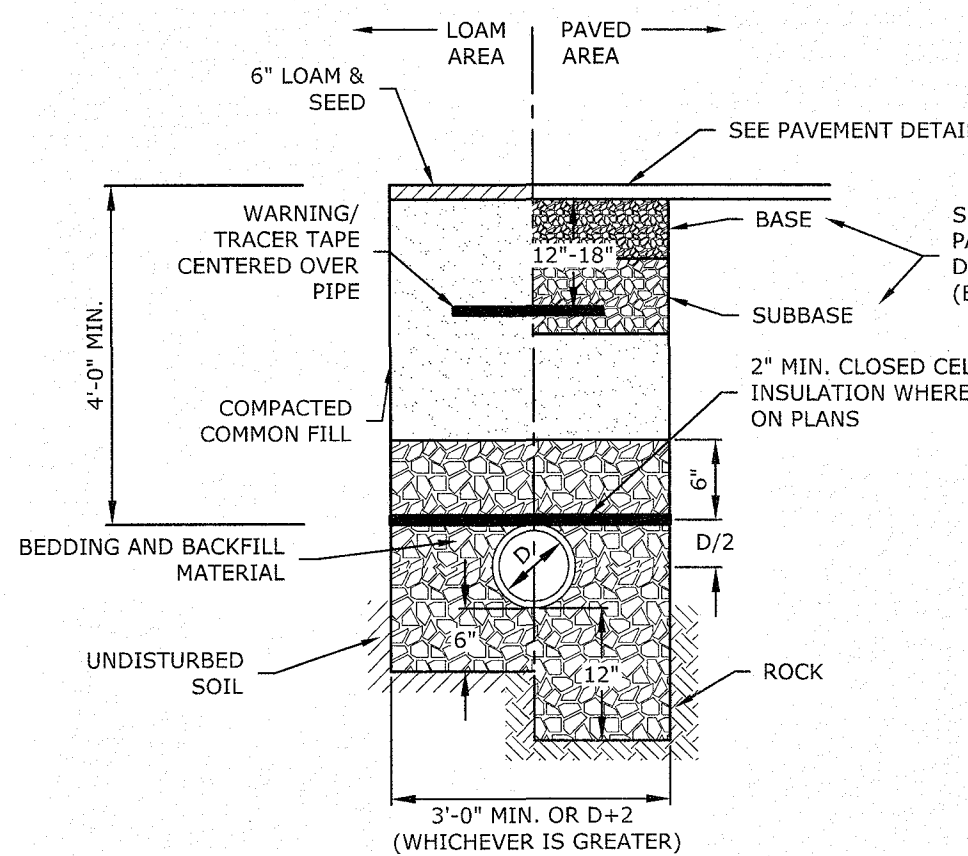
- NOTES:
- END SECTION FOR 12" TO 30" DIA. PIPE IN ONE PIECE, FOR 36" TO 48" DIA. PIPE TO BE MADE FROM TWO SHEETS JOINED BY RIVETING OR BOLTING ON CENTER LINE.
  - CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME THICKNESS AS END SECTION AND EACH TO BE GALVANIZED.

**METAL FLARED END SECTION** 4  
NO SCALE

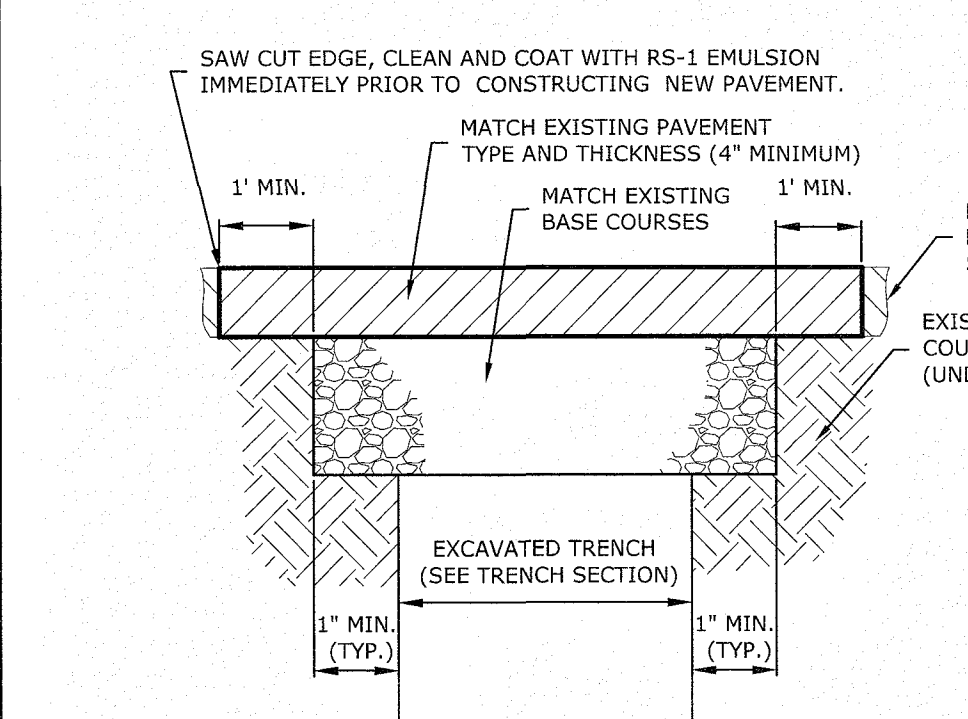


**ROCK CROSS VANE** 5  
NO SCALE

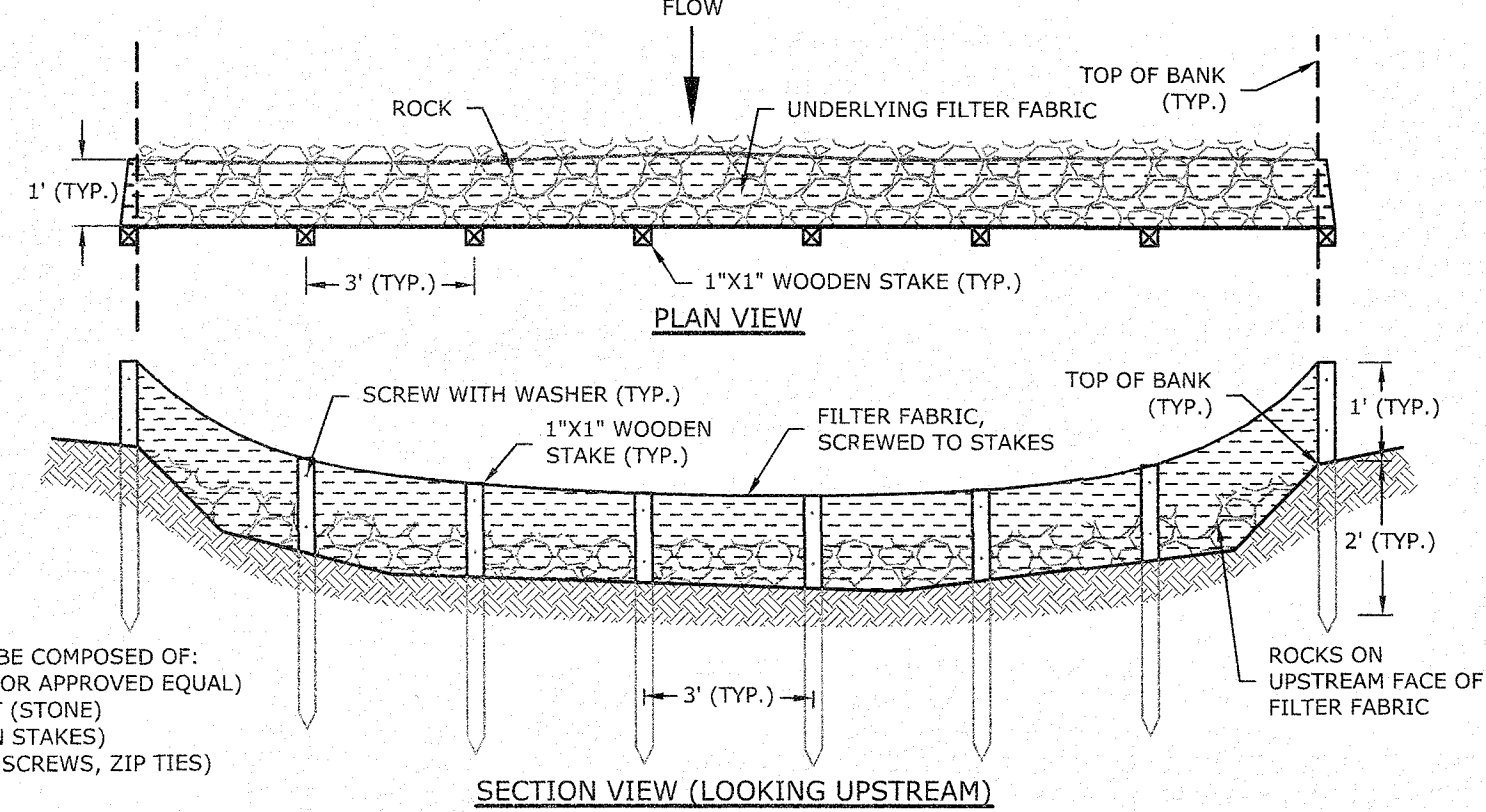
- SINGLE ROCK VANE CONSTRUCTION SEQUENCE:**
- EXCAVATE A TRENCH FOR THE VANE.
  - SET THE FOOTER ROCKS.
  - SET THE HEADER ROCKS.
  - EXCAVATE A TRENCH FOR THE GEOTEXTILE FABRIC ON THE UPSTREAM SIDE OF THE VANE. THE TRENCH SHALL BE AT LEAST 3' DEEP.
  - INSTALL NON-WOVEN GEOTEXTILE (MIRAFI 140N OR APPROVED EQUAL) UPSTREAM OF ROCK CROSS VANE FROM THE TOP OF THE TOP ROCK TO THE BOTTOM OF THE FOOTER ROCK AND EXTEND TO THE END OF BOTH ROCK VANS.
  - BACKFILL THE UPSTREAM SIDE OF THE VANE WITH GRAVEL MATCHING STREAMBED MATERIAL.
  - EXCAVATE A SILL TRENCH (MINIMUM LENGTH OF 3') AT THE BANK END OF THE VANE.
  - CONSTRUCT THE SILL: CONTINUE ROCK VANE FOR MINIMUM OF 3' INTO SILL TRENCH, COVER WITH GEOTEXTILE (MIRAFI 140N OR APPROVED EQUAL), AND BACKFILL.
  - WEAVE ONE CONTINUOUS GEOTEXTILE ALONG VANE AND SILL.
- GENERAL NOTES:**
- FOOTER ROCKS SHALL BE ROUNDED STONE WITH BOULDERS NO SMALLER THAN 18" AND WITH AN AVERAGE SIZE OF AT LEAST 24".
  - HEADER ROCKS SHALL BE ROUNDED STONE WITH BOULDERS NO SMALLER THAN 12" AND WITH AN AVERAGE SIZE OF AT LEAST 18".
  - VANE ARM ROCKS SHALL BE KEYS INTO THE BANK WITH A SILL OF A MINIMUM LENGTH OF 3'.
  - INSTALL NON-WOVEN GEOTEXTILE (MIRAFI 140N OR APPROVED EQUAL) UPSTREAM OF ROCK CROSS VANE FROM THE TOP OF THE TOP ROCK TO THE BOTTOM OF THE FOOTER ROCK AND EXTEND A MINIMUM OF 1' BEYOND TOP OF BANK ON BOTH SIDES OF STREAM.
  - SET THE ELEVATION OF THE TOP OF THE ROCK VANE TO THE DESIGNED THALWEG (CENTERLINE) ELEVATION OF THE STREAMBED.
  - SCOUR POOLS SHALL BE  $\pm 1.3-1.6 \times$  THE BANKFULL DEPTH.



**STORM DRAIN TRENCH** 6  
NO SCALE



**PAVEMENT TRENCH PATCH** 9  
NO SCALE

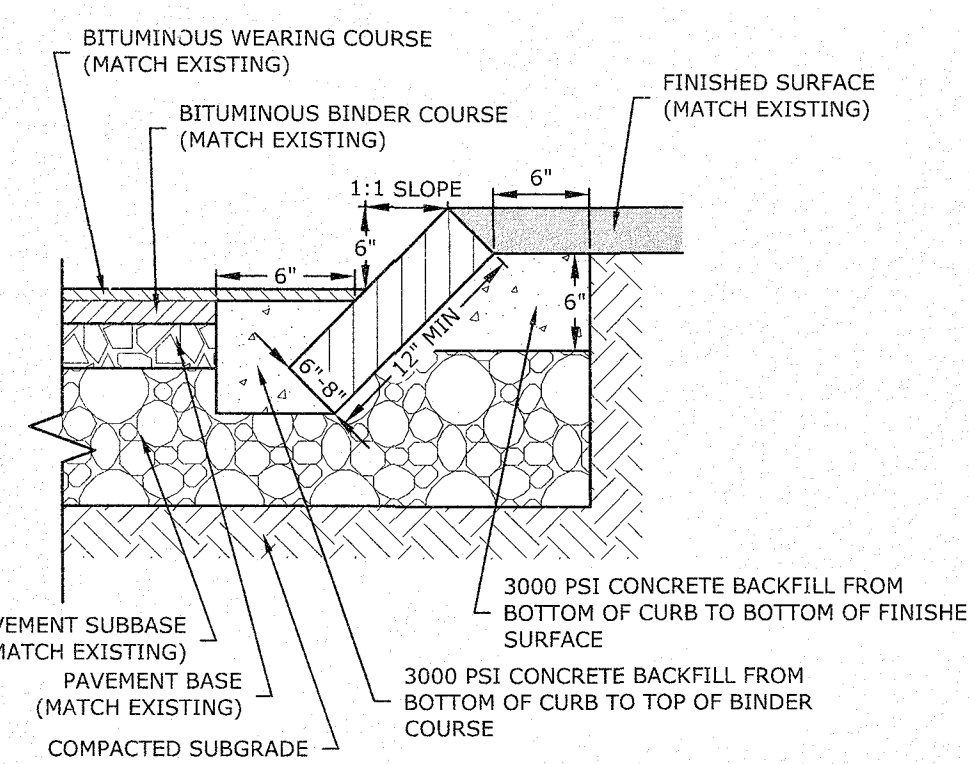


**IN-STREAM SEDIMENT CURTAIN** 7  
NO SCALE

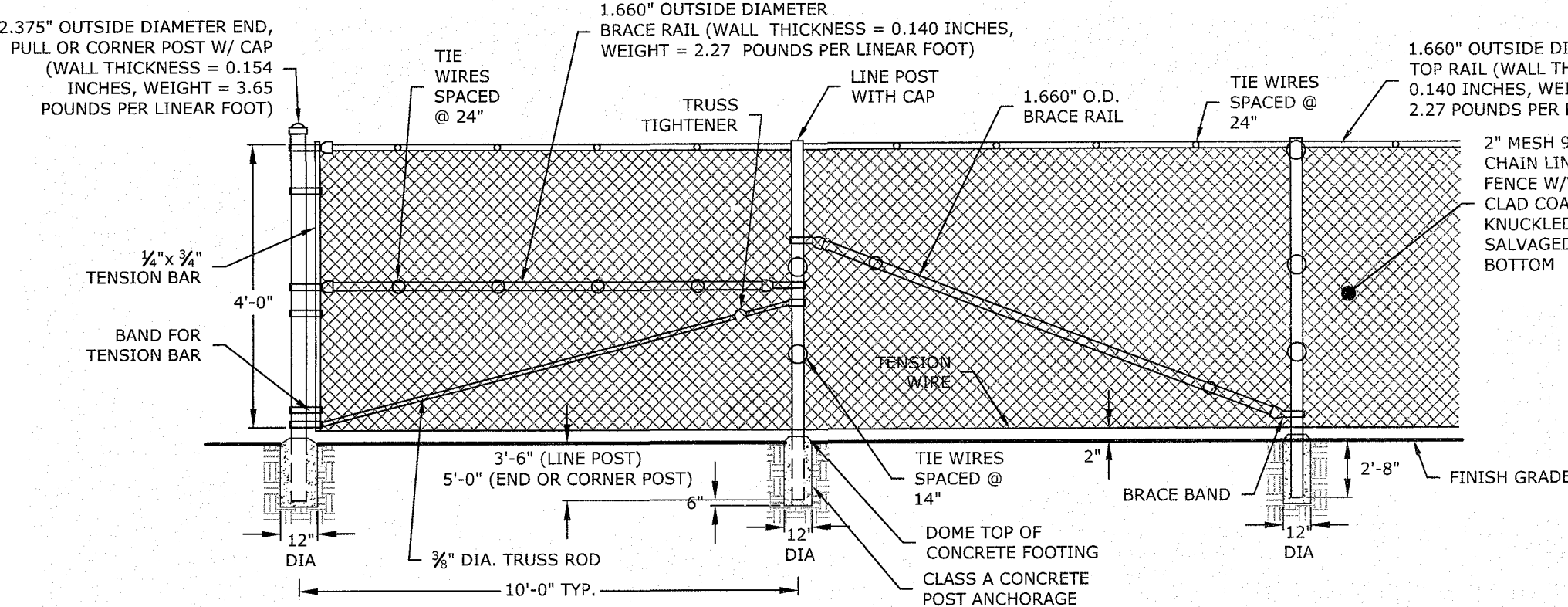
- MATERIALS:**  
THE SEDIMENT CURTAIN SHALL BE COMPOSED OF:  
• FILTER FABRIC (MIRAFI 140N OR APPROVED EQUAL)  
• BOTTOM ANCHORING WEIGHT (STONE)  
• ANCHORING POSTS (WOODEN STAKES)  
• AND SECURING MECHANISM (SCREWS, ZIP TIES)  
• ROCK (RIPRAP: D50=6")
- CONSTRUCTION DETAILS:**
- INSTALLATION
    - THE SEDIMENT CURTAIN SHALL BE INSTALLED WHERE SHOWN ON THE PLANS.
    - STAKES (1 IN BY 1 IN) SHALL BE INSTALLED FROM ONE BANK TO THE OTHER, ON 3 FT CENTERS. STAKES SHALL BE DRIVEN AT LEAST 2 FT INTO THE GROUND, AND BE EXPOSED NO MORE THAN 12 IN WHERE THEY ARE IN WATER.
    - A SCREW WITH WASHER SHALL CONNECT THE GEOTEXTILE TO THE STAKES (STAKES ON THE DOWNSTREAM SIDE OF THE FABRIC). SCREWS POSITIONED 6 IN ON CENTERS. AT THE TOP OF THE STAKES, CABLE TIES MAY BE USED IF NEEDED TO FASTEN A FLAP OF GEOTEXTILE OVER THE TOP OF THE STAKE.
    - AT THE STREAMBED, A GEOTEXTILE FLAP SHALL EXTEND AT LEAST 1 FT UPSTREAM OF THE STAKES. STONE SHALL SIT ON THIS FLAP TO ANCHOR THE GEOTEXTILE TO THE BED.
  - MAINTENANCE
    - THE SEDIMENT CURTAIN SHALL BE INSPECTED DAILY, WITH ADDITIONAL MONITORING OF PERFORMANCE DURING STORMS OR SIGNIFICANT FLOW EVENTS.
    - BED LOAD SEDIMENT ESCAPING THE DOWNSTREAM-MOST SEDIMENT CURTAIN SHALL CONSTITUTE INADEQUATE PERFORMANCE. THE CONTRACTOR SHALL IMMEDIATELY MODIFY, ADJUST, REPAIR OR REPLACE THE SEDIMENT CURTAIN TO CORRECT INADEQUACIES.
    - THE SEDIMENT CURTAIN SHALL BE REMOVED EITHER WHEN MORE THAN 0.25 IN OF RAIN IS FORECAST OR HAS FALLEN IN A 4 HR - OR SHORTER - PERIOD; OR WHEN IN-STREAM CONSTRUCTION ACTIVITIES WILL CEASE FOR MORE THAN 16 HRS (E.G. OVER WEEKENDS).
    - THE SEDIMENT CURTAIN SHALL REMAIN IN PLACE UNTIL THE PROTECTED CONSTRUCTION ACTIVITIES HAVE CEASED AND THE TURBIDITY OF THE WATER ENCLOSED IS REDUCED TO ACCEPTABLE LEVELS. THE CURTAIN SHALL BE REMOVED WITHIN 72 HOURS OF THIS CONDITION BEING MET.

CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<2'	USE CURVED CURB
2'-15'	USE RADIAL JOINTS
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
>110'	8'

- NOTES:
- SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
  - ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
  - MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
  - MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
  - JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2' AND SHALL BE MORTARED.



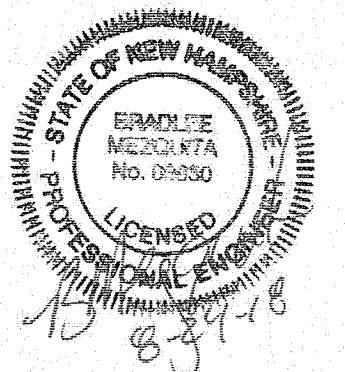
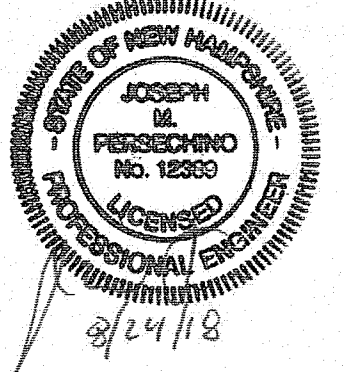
**SLOPED GRANITE CURB** 10  
NO SCALE



**BLACK VINYL COATED CHAIN-LINK FENCE** 8  
NO SCALE

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PERMIT DRAWINGS

**TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS**



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Salem, New Hampshire

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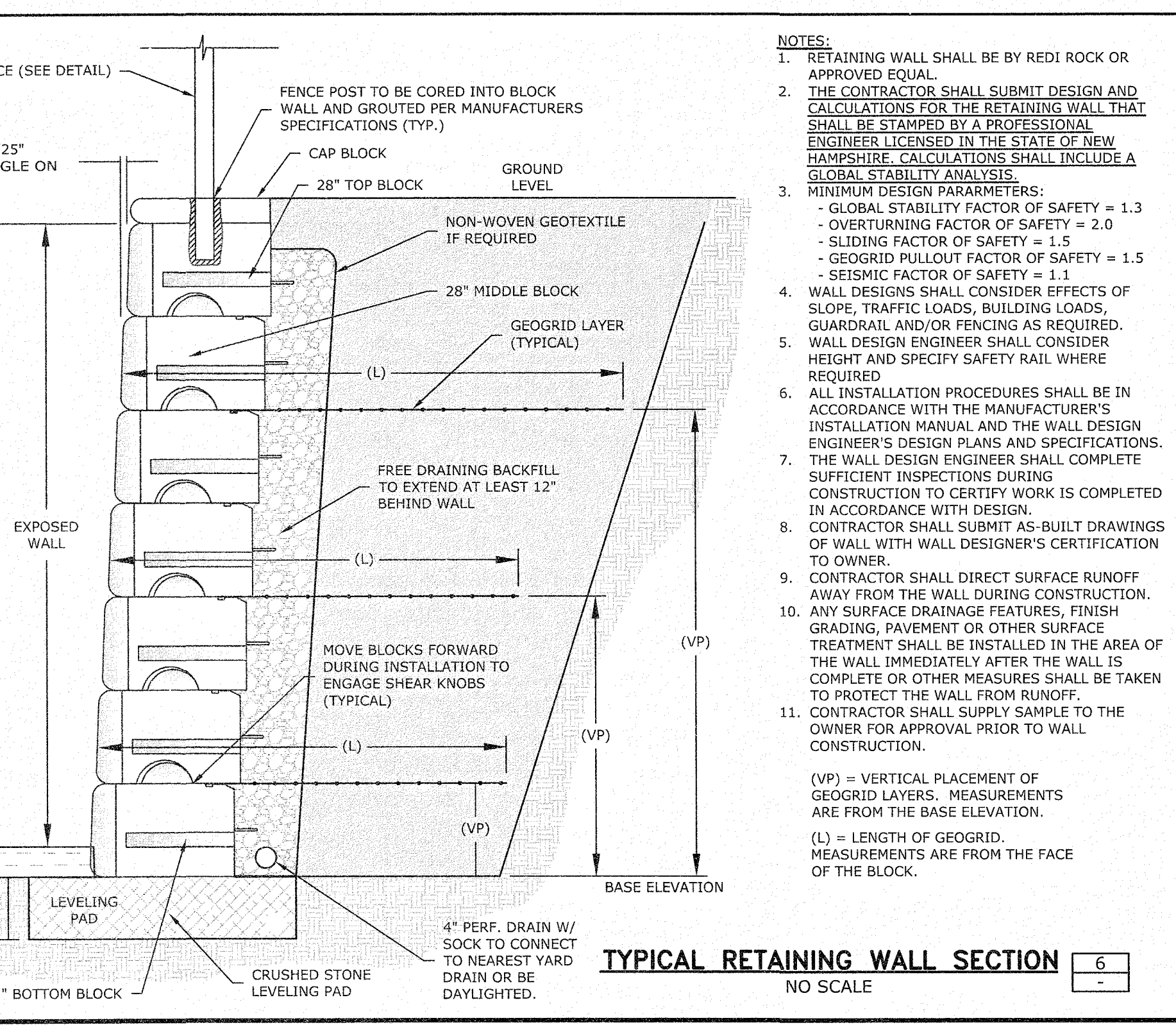
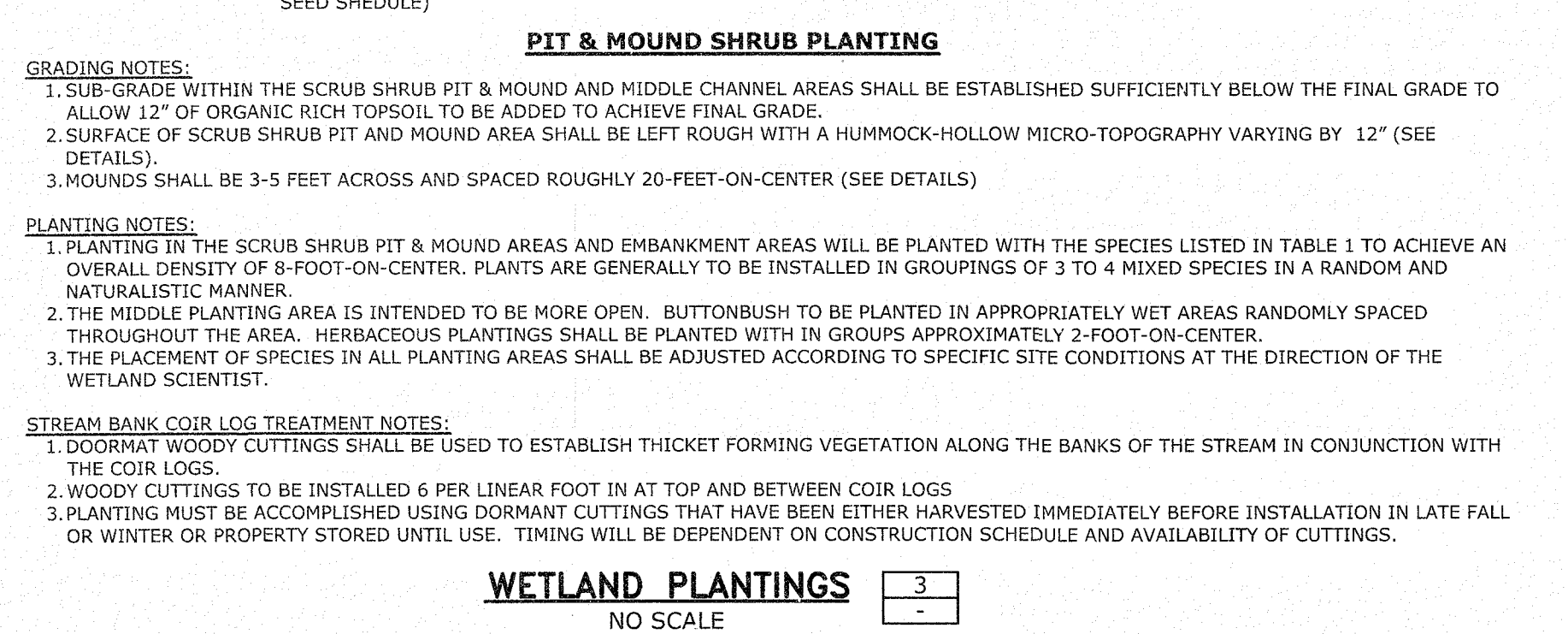
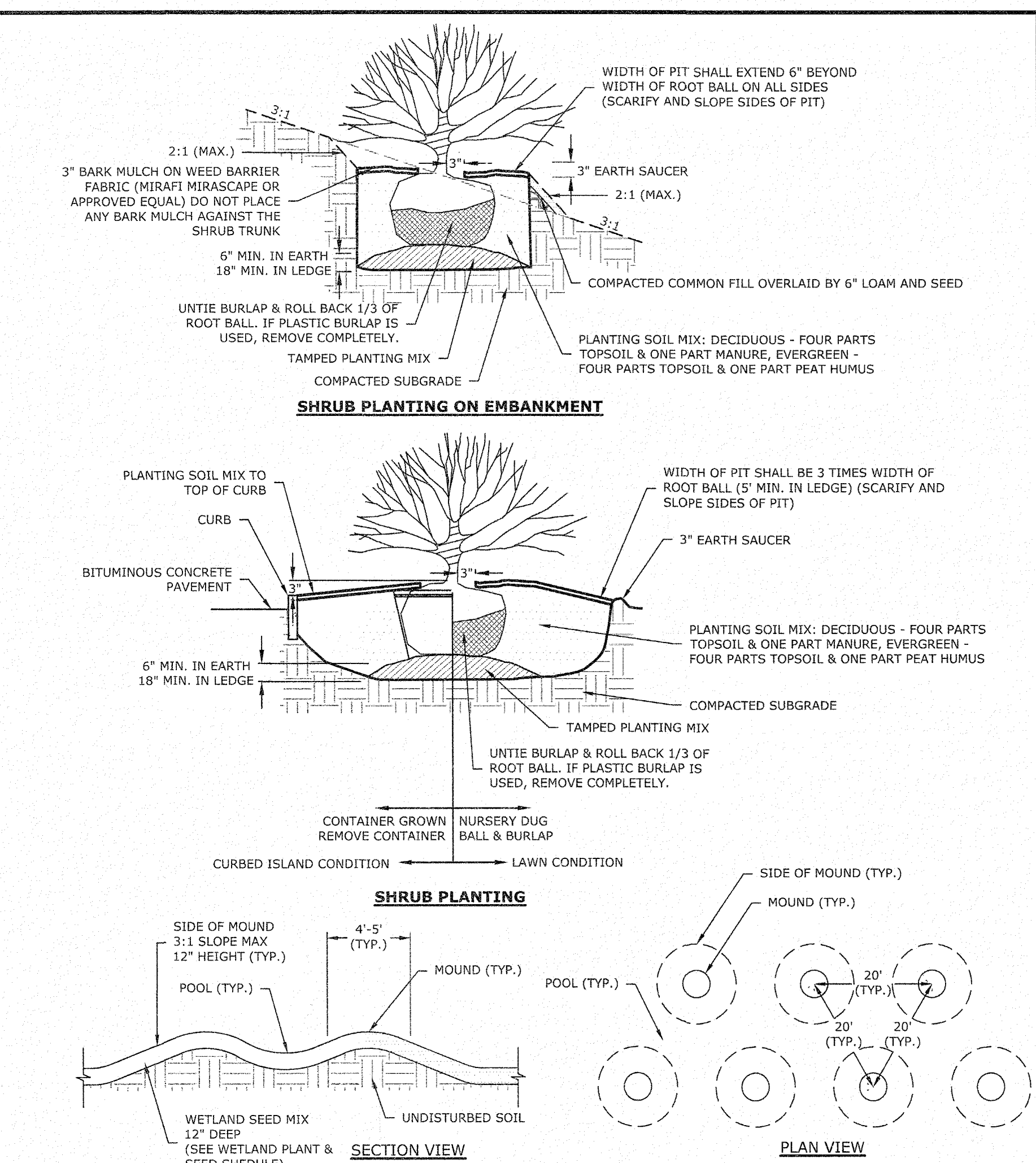
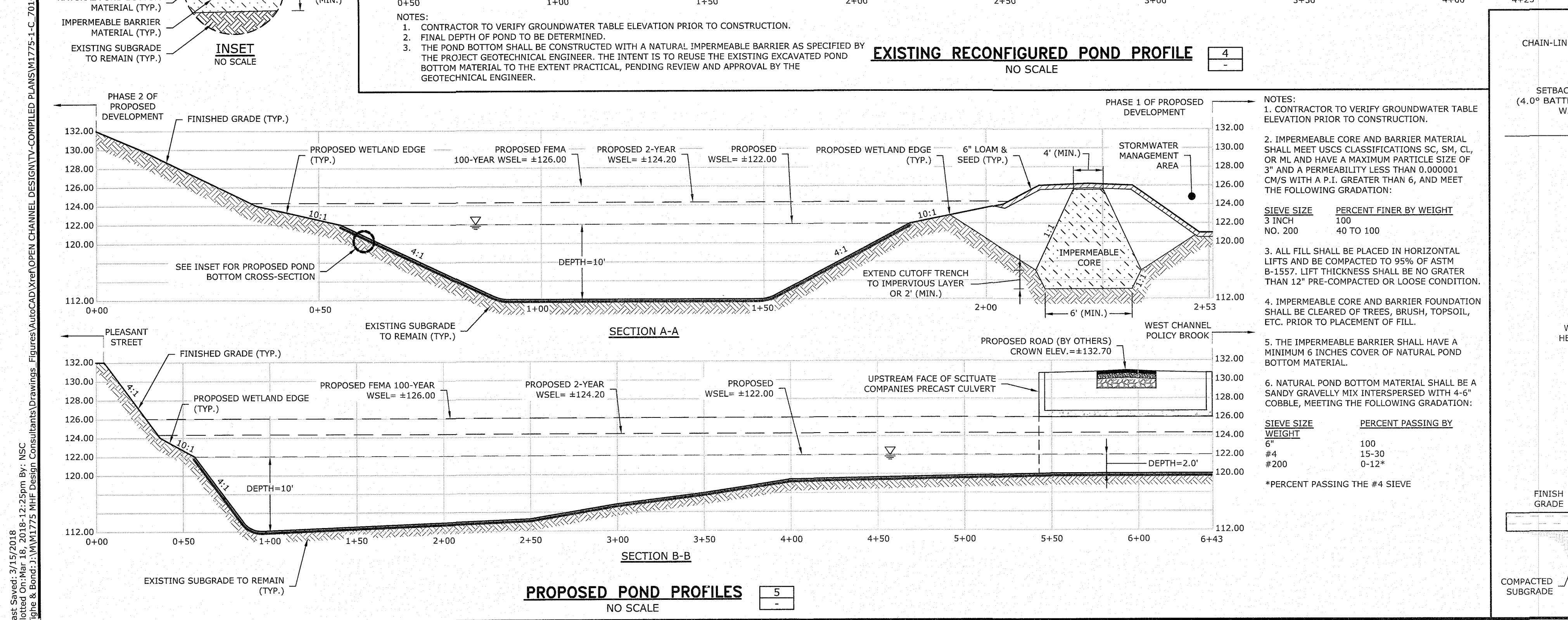
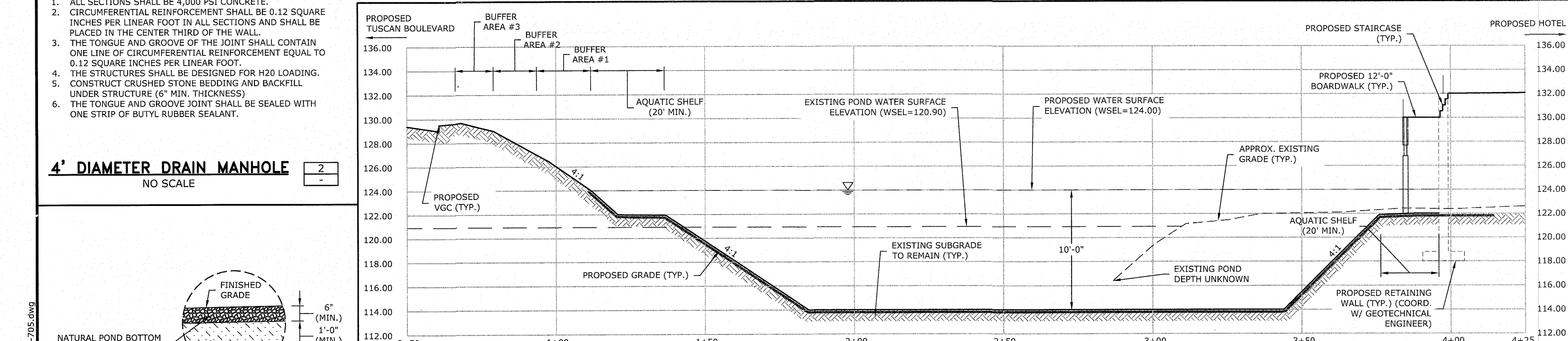
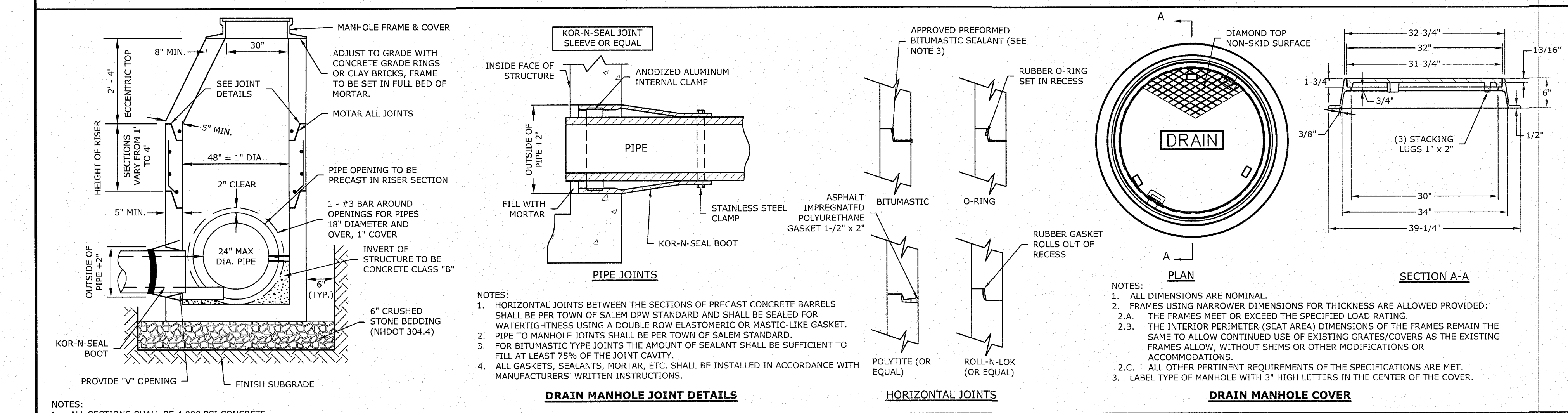
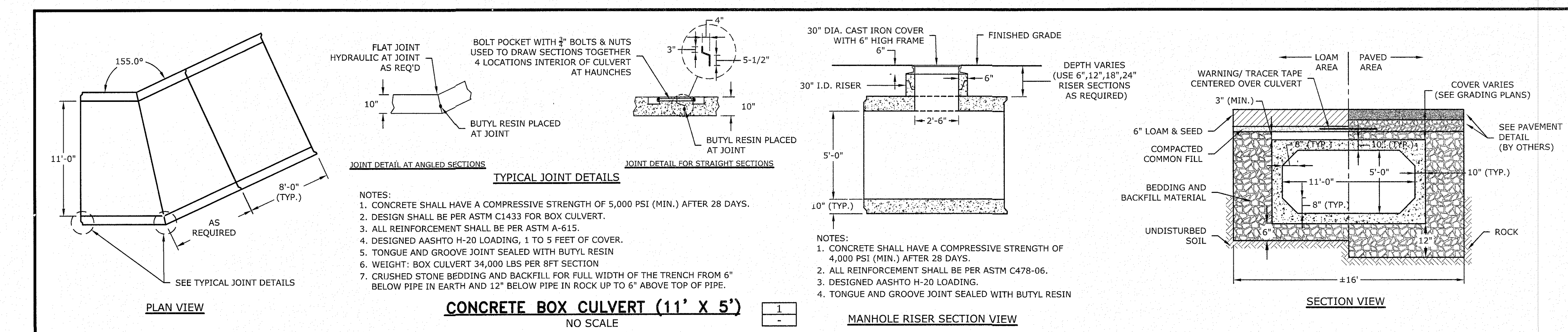
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10	8/24/2018	REV. PER NHDOT COMMENTS
9	3/12/2018	REV. PER TOWN COMMENTS
8	11/17/2017	ISSUED FOR PRICING
7	7/26/2017	REV. PER NHDES COMMENTS
6	6/20/2017	REV. PER FEMA RFMI
5	5/8/2017	REV. PER NHDES COMMENTS
4	3/24/2017	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1
PROJECT NO:	M-1775-1	
DATE:	11/28/2016	
FILE:	M1775-1-C-701-705.dwg	
DRAWN BY:	NSC	
CHECKED:	JMP	
APPROVED:	BLM	

DETAILS SHEET

SCALE: AS SHOWN

C.702





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**STATE OF NEW HAMPSHIRE**  
JOSEPH PERSECHINO  
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**STATE OF NEW HAMPSHIRE**  
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LICENSED PROFESSIONAL ENGINEER

**PERMIT DRAWINGS**

**TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS**

**OMJ REALTY, LLC**  
Salem, New Hampshire

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MARK	DATE	DESCRIPTION
10	3/12/2018	REV. PER TOWN COMMENTS
9	11/17/2017	ISSUED FOR PRICING
8	11/3/2017	REV. IMPACT AREAS
7	7/26/2017	REV. PER NHDES COMMENTS
6	6/20/2017	REV. PER FEMA RFMI
5	5/8/2017	REV. PER NHDES COMMENTS
4	3/24/2017	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1

PROJECT NO: M-1775-1  
DATE: 11/28/2016  
FILE: M1775-1-C\_701-705.dwg  
DRAWN BY: NSC  
CHECKED: JNP  
APPROVED: BLM

**DETAILS SHEET**

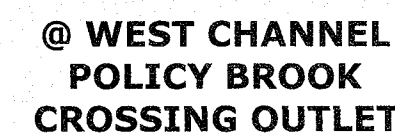
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**C.703**

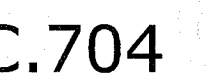




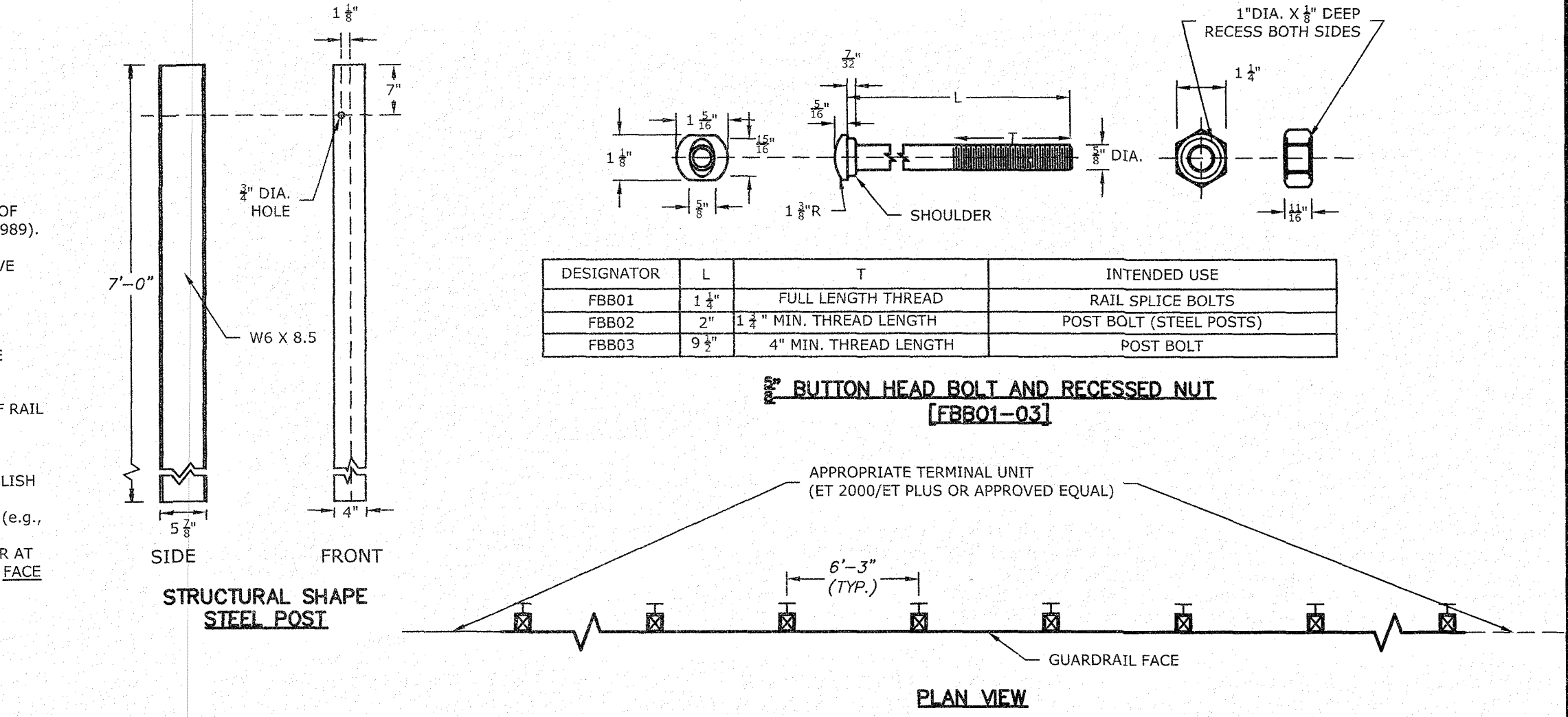
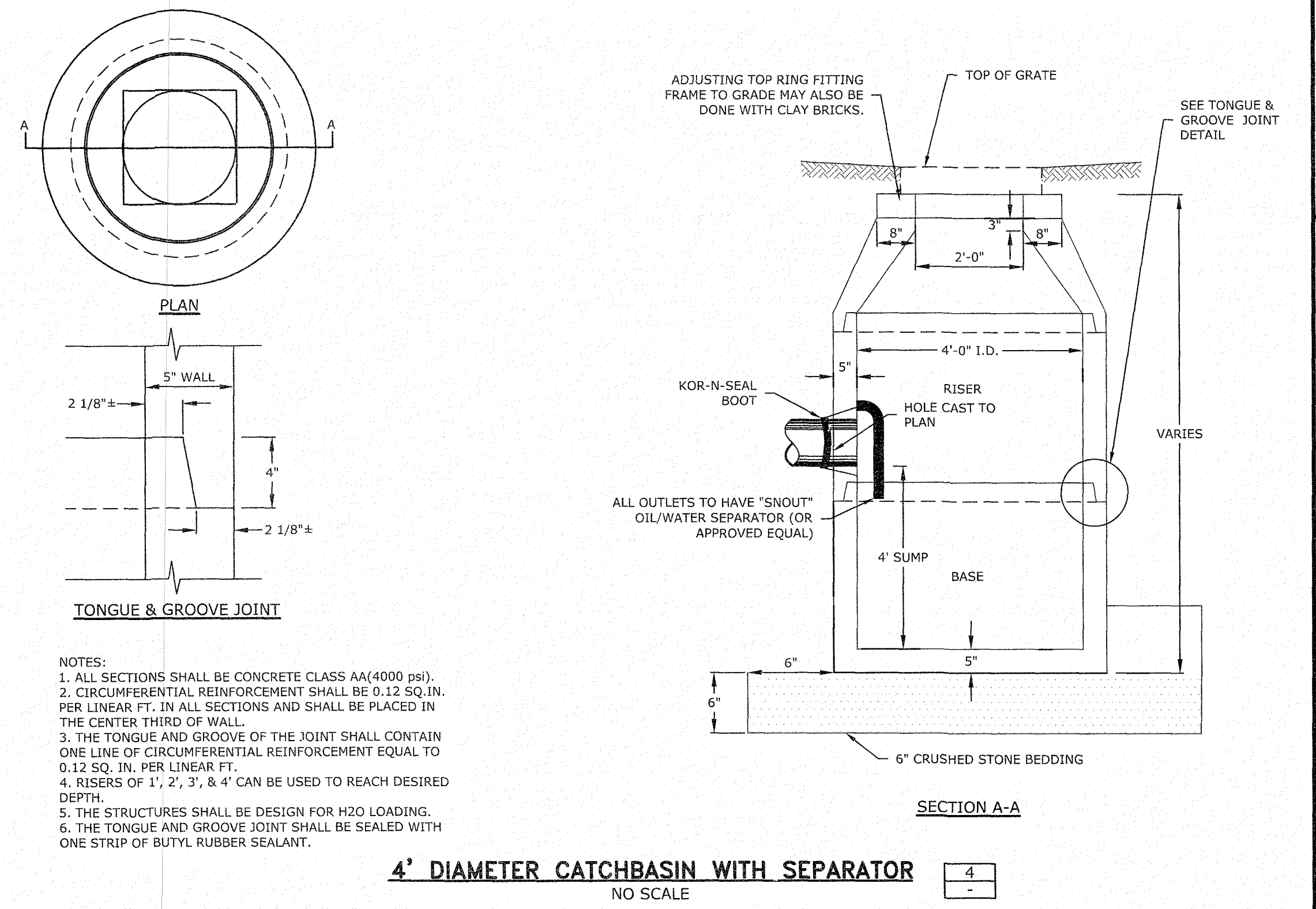
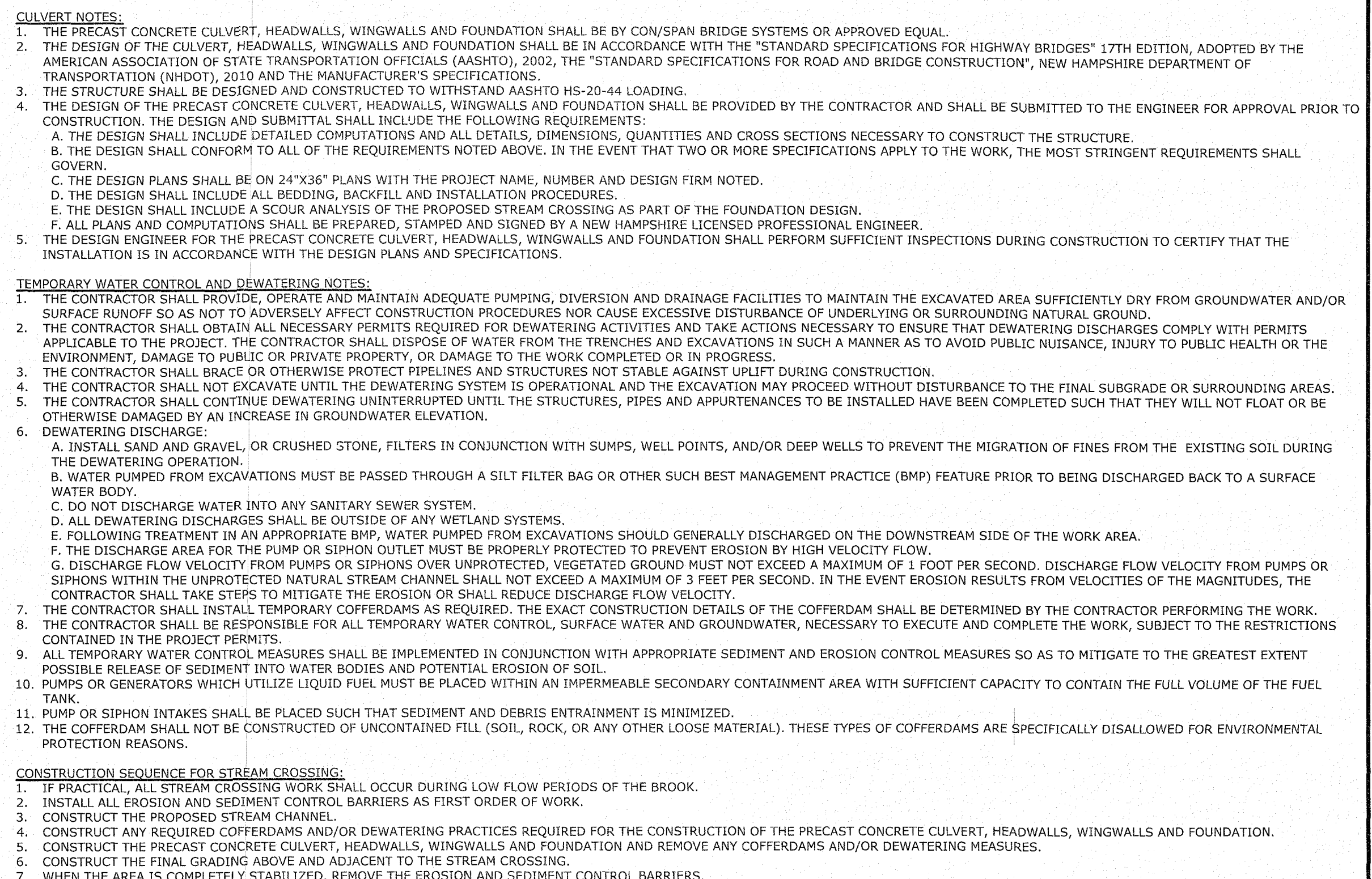
1. IF PRACTICAL, ALL STREAM CROSSING WORK SHALL OCCUR DURING LOW FLOW PERIODS OF THE BROOK.
2. INSTALL ALL EROSION AND SEDIMENT CONTROL BARRIERS AS FIRST ORDER OF WORK.
3. CONSTRUCT THE PROPOSED STREAM CHANNEL.
4. CONSTRUCT ANY REQUIRED COFFERDAMS AND/OR DEWATERING PRACTICES REQUIRED FOR THE CONSTRUCTION OF THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION.
5. CONSTRUCT THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION AND REMOVE ANY COFFERDAMS AND/OR DEWATERING MEASURES.
6. CONSTRUCT THE FINAL GRADING ABOVE AND ADJACENT TO THE STREAM CROSSING.
7. WHEN THE AREA IS COMPLETELY STABILIZED, REMOVE THE EROSION AND SEDIMENT CONTROL BARRIERS.



# STEP POOL STREAM DETAIL

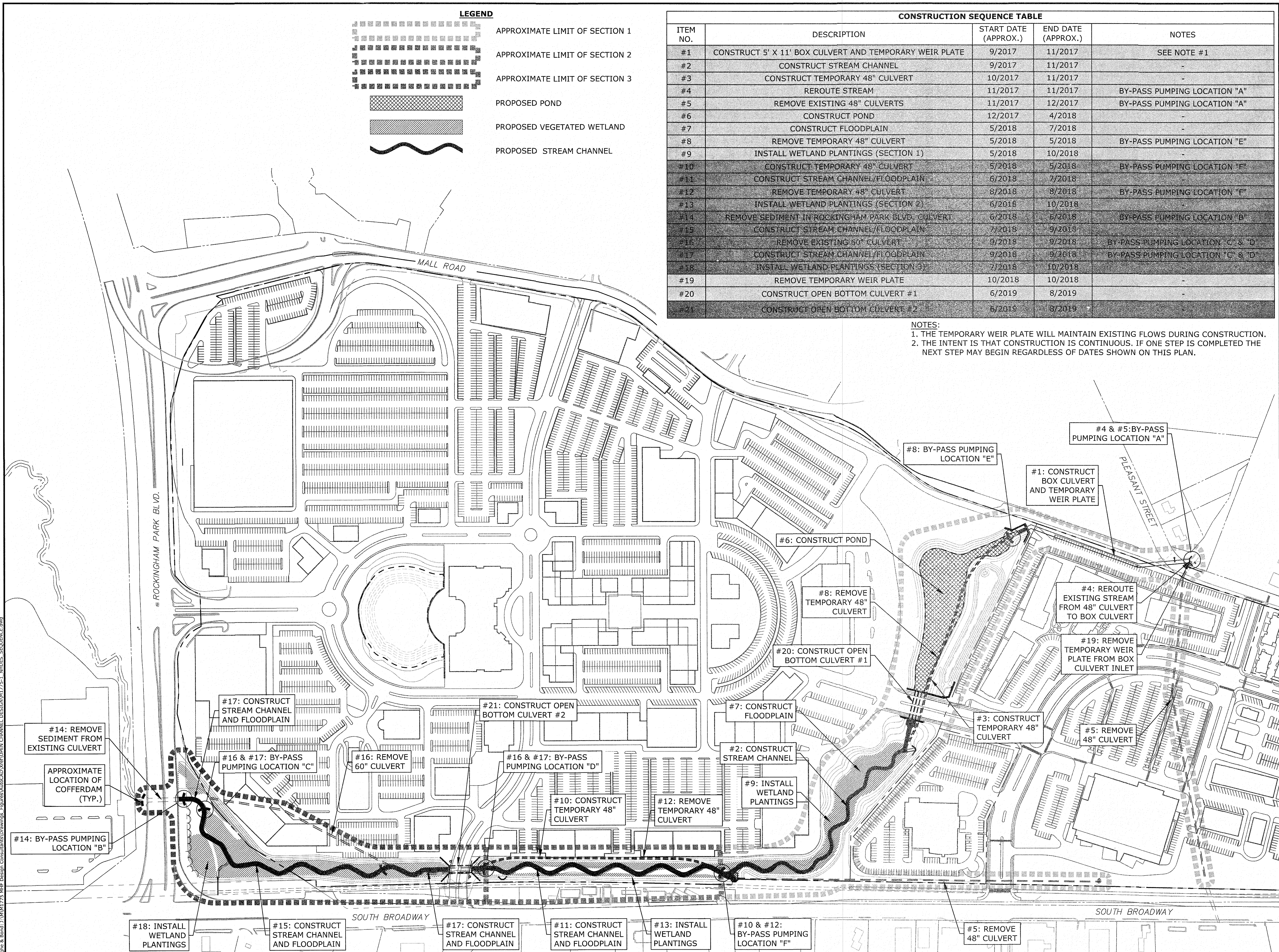






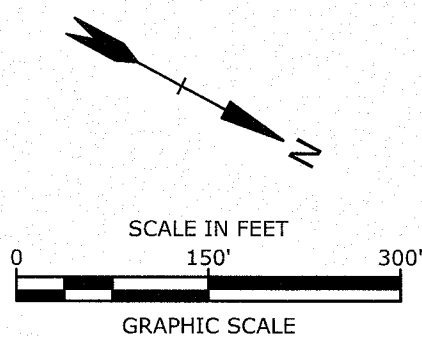


Last Saved: 11/17/2017  
 Printed On: Nov 01, 2017 4:25pm By: BL  
 Tighe & Bond: M1775-NHDES-SEQUENCE.dwg  
 Figures: AutoCAD, Veeva, OPEN CHANNEL DESIGN, M1775-1 NHDES-SEQUENCE.dwg



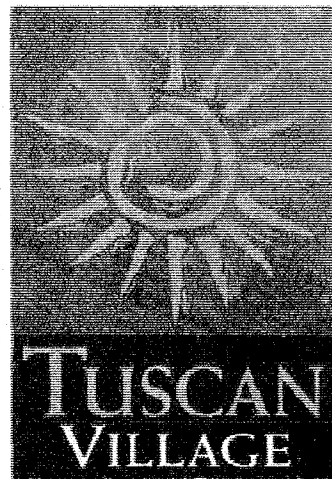
CONSTRUCTION SEQUENCE TABLE				
ITEM NO.	DESCRIPTION	START DATE (APPROX.)	END DATE (APPROX.)	NOTES
#1	CONSTRUCT 5' X 11' BOX CULVERT AND TEMPORARY WEIR PLATE	9/2017	11/2017	SEE NOTE #1
#2	CONSTRUCT STREAM CHANNEL	9/2017	11/2017	-
#3	CONSTRUCT TEMPORARY 48" CULVERT	10/2017	11/2017	-
#4	REROUTE STREAM	11/2017	11/2017	BY-PASS PUMPING LOCATION "A"
#5	REMOVE EXISTING 48" CULVERTS	11/2017	12/2017	BY-PASS PUMPING LOCATION "A"
#6	CONSTRUCT POND	12/2017	4/2018	-
#7	CONSTRUCT FLOODPLAIN	5/2018	7/2018	-
#8	REMOVE TEMPORARY 48" CULVERT	5/2018	5/2018	BY-PASS PUMPING LOCATION "E"
#9	INSTALL WETLAND PLANTINGS (SECTION 1)	5/2018	10/2018	-
#10	CONSTRUCT TEMPORARY 48" CULVERT	5/2018	5/2018	BY-PASS PUMPING LOCATION "F"
#11	CONSTRUCT STREAM CHANNEL/FLOODPLAIN	6/2018	7/2018	-
#12	REMOVE TEMPORARY 48" CULVERT	8/2018	8/2018	BY-PASS PUMPING LOCATION "F"
#13	INSTALL WETLAND PLANTINGS (SECTION 2)	6/2018	10/2018	-
#14	REMOVE SEDIMENT IN ROCKINGHAM PARK BLVD. CULVERT	6/2018	6/2018	BY-PASS PUMPING LOCATION "B"
#15	CONSTRUCT STREAM CHANNEL/FLOODPLAIN	7/2018	9/2018	-
#16	REMOVE EXISTING 60" CULVERT	9/2018	9/2018	BY-PASS PUMPING LOCATION "C" & "D"
#17	CONSTRUCT STREAM CHANNEL/FLOODPLAIN	9/2018	9/2018	BY-PASS PUMPING LOCATION "C" & "D"
#18	INSTALL WETLAND PLANTINGS (SECTION 3)	7/2018	10/2018	-
#19	REMOVE TEMPORARY WEIR PLATE	10/2018	10/2018	-
#20	CONSTRUCT OPEN BOTTOM CULVERT #1	6/2019	8/2019	-
#21	CONSTRUCT OPEN BOTTOM CULVERT #2	6/2019	8/2019	-

NOTES:  
 1. THE TEMPORARY WEIR PLATE WILL MAINTAIN EXISTING FLOWS DURING CONSTRUCTION.  
 2. THE INTENT IS THAT CONSTRUCTION IS CONTINUOUS. IF ONE STEP IS COMPLETED THE NEXT STEP MAY BEGIN REGARDLESS OF DATES SHOWN ON THIS PLAN.



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TUSCAN VILLAGE  
 FLOODPLAIN  
 IMPROVEMENTS



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MARK	DATE	DESCRIPTION
6	11/1/2017	REV. PER NHDES COMMENTS
5	10/11/2017	REV. PER NHDES SEQUENCING PLAN
4	9/7/2017	REV. PER PHASING PLAN
3	5/8/2017	REV. PER NHDES COMMENTS
2	3/9/2017	REV. BOX CULVERT DESIGN
1	2/10/2017	REV. BOX CULVERT DESIGN
PROJECT NO: M-1775-1		
DATE: 11/28/2016		
FILE: M1775-1_NHDES_SEQUENCE.dwg		
DRAWN BY: NSC		
CHECKED: JMP		
APPROVED: BLM		

CONSTRUCTION  
 SEQUENCING PLAN

SCALE: AS SHOWN