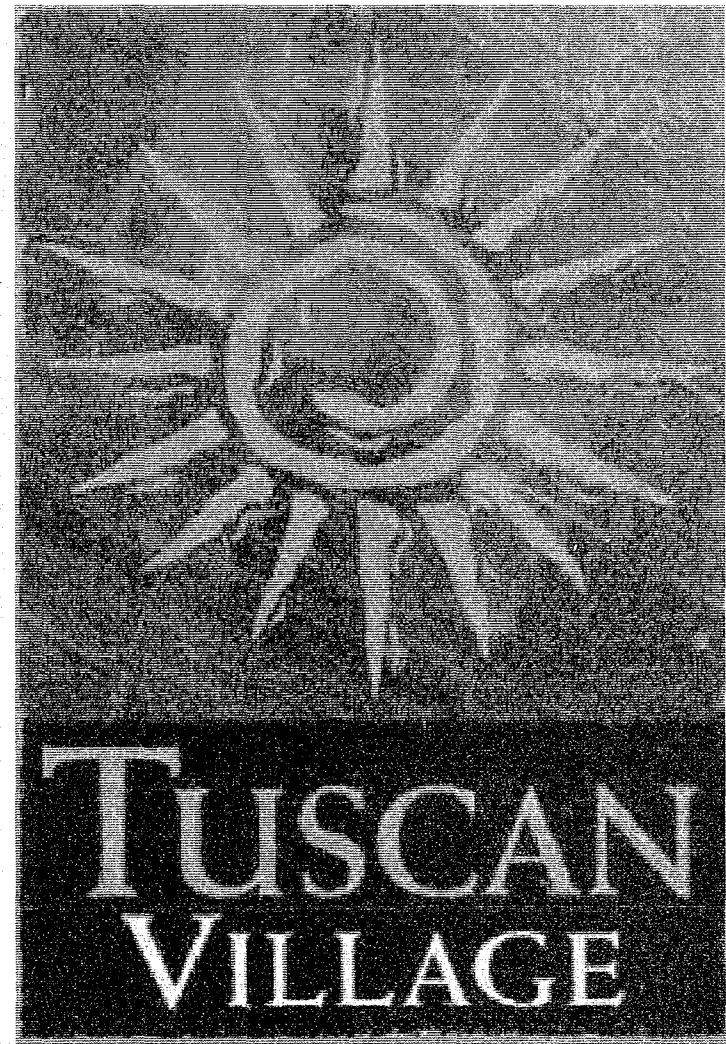


TUSCAN VILLAGE

FLOODPLAIN IMPROVEMENTS

SALEM, NEW HAMPSHIRE

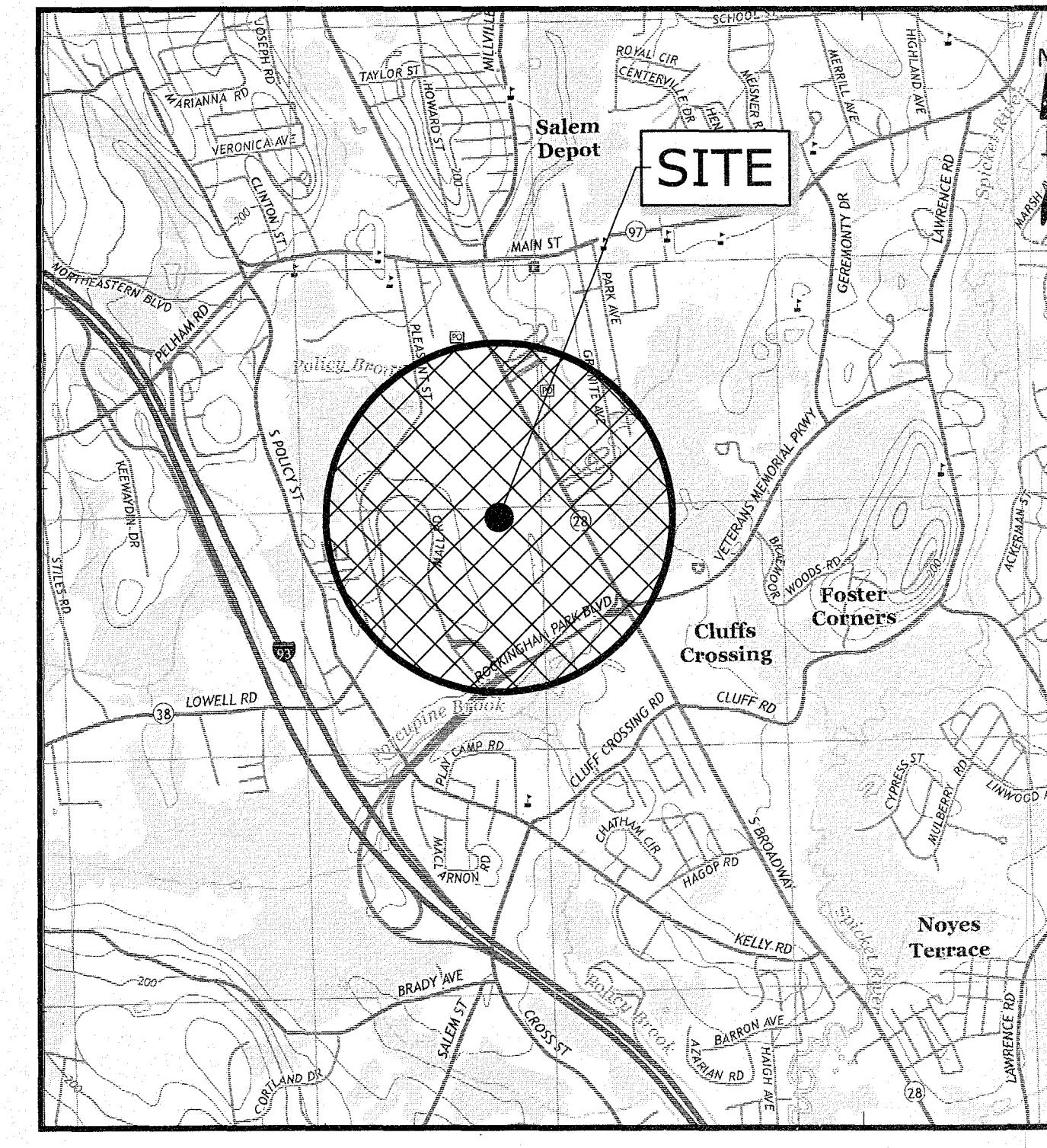


NOVEMBER 28, 2016
LAST REVISED: SEPTEMBER 5, 2018

LIST OF DRAWINGS

SHEET NO.	SHEET TITLE	LAST REVISED
G.100	COVER SHEET	9/5/2018
1 OF 1	EXISTING CONDITIONS PLAN	7/26/2018
C.101	ABUTTERS VICINITY PLAN	8/24/2018
C.201A	WETLAND IMPACT VICINITY PLAN	8/24/2018
C.201B	WETLAND IMPACT PLAN	3/12/2018
C.201C	WETLAND IMPACT PLAN	3/12/2018
C.201D	SALEM JURISDICTIONAL WETLAND IMPACT VICINITY PLAN	8/24/2018
C.301	WETLAND MITIGATION PLAN	8/24/2018
C.401A	POLICY BROOK GRADING & DRAINAGE PLAN	8/24/2018
C.401B	POLICY BROOK GRADING & DRAINAGE PLAN	8/24/2018
C.401C	WEST CHANNEL POLICY BROOK GRADING & DRAINAGE PLAN	8/24/2018
C.401D	WEST CHANNEL POLICY BROOK GRADING & DRAINAGE PLAN	9/5/2018
C.501A	POLICY BROOK EROSION CONTROL PLAN	8/24/2018
C.501B	POLICY BROOK EROSION CONTROL PLAN	8/24/2018
C.501C	WEST CHANNEL POLICY BROOK EROSION CONTROL PLAN	8/24/2018
C.501D	WEST CHANNEL POLICY BROOK EROSION CONTROL PLAN	9/5/2018
C.601A	POLICY BROOK WETLAND PLANTING PLAN	8/24/2018
C.601B	POLICY BROOK WETLAND PLANTING PLAN	8/24/2018
C.601C	WEST CHANNEL POLICY BROOK WETLAND PLANTING PLAN	8/24/2018
C.601D	WEST CHANNEL POLICY BROOK WETLAND PLANTING PLAN	9/5/2018
C.701	EROSION CONTROL NOTES & DETAILS SHEET	3/12/2018
C.702	DETAILS SHEET	8/24/2018
C.703	DETAILS SHEET	3/12/2018
C.704	WEST CHANNEL POLICY BROOK STREAM CROSSING DETAILS SHEET	8/15/2018
C.705	POLICY BROOK STREAM CROSSING DETAILS SHEET	3/12/2018
1 OF 1	CONSTRUCTION SEQUENCING PLAN	11/1/2017

PERMIT DRAWINGS



LOCATION MAP
SCALE: 1" = 2,000'

PREPARED BY:
Tighe & Bond
www.tighebond.com
177 Corporate Drive
Portsmouth, NH 03801
(603) 433-8818

APPLICANT:
OMJ Realty, LLC
63 Main Street
Salem, NH

SITE/SURVEY CONSULTANT:
MHF Design Consultants, Inc.
44 Stiles Road, Suite 1
Salem, NH 03079

ENVIRONMENTAL CONSULTANT:
Gove Environmental Services, Inc.
8 Continental Drive, Bldg. 2, Unit H
Exeter, NH 03833

PERMITS & APPROVALS:

TYPE	PERMIT NUMBER	APPROVED
NHDES WETLANDS	2016-03374	8/28/2017
NHDES ALTERATION OF TERRAIN	A07-1315	9/25/2017
FEMA CLOMR	17-01-0965R	10/20/2017
ACOE GENERAL PERMIT	NAE-2017-00133	10/31/2017
TOWN OF SALEM CONDITIONAL USE	N/A	3/28/2017
TOWN OF SALEM SITE PLAN APPROVAL	N/A	5/8/2018

SALEM PLANNING BOARD:

1. ON MARCH 28, 2017 THE SALEM PLANNING BOARD VOTED TO APPROVE A CONDITIONAL USE PERMIT TO ALLOW 11,170 SQUARE FEET OF PERMANENT WETLAND IMPACT AND 65,531 SQUARE FEET OF TEMPORARY WETLAND IMPACT RELATED TO THE REDEVELOPMENT OF THE FORMER ROCKINGHAM RACE TRACK PROPERTY.
- 2.A ON MARCH 28, 2017 THE PLANNING BOARD VOTED TO APPROVE THIS SITE PLAN SUBJECT TO THE FOLLOWING CONDITIONS:

PRIOR TO SITE WORK PERMIT:

- 2.1. SUBMIT APPROVAL FROM ENGINEERING DIVISION PER 3/22/17 MEMO;
- 2.2. PAY FOR OUTSIDE INSPECTION PER DIRECTION OF ENGINEERING DIVISION;
- 2.3. SUBMIT STATE PERMITS (WETLANDS PRIOR TO WETLAND IMPACT, ALTERATION OF TERRAIN);
- 2.4. SUBMIT APPROVAL FROM ARMY CORPS OF ENGINEERS AND FEMA;
- 2.5. SUBMIT APPROVAL FROM NH DOT AND KIMCO (ABUTTING PROPERTY OWNERS) PRIOR TO WORK ON THOSE PROPERTIES;
- 2.6. NOTE CONDITIONAL USE PERMIT FOR WETLAND IMPACT ON PLAN;

PRIOR TO OCCUPANCY:

- 2.7. CONSTRUCT ALL SITE IMPROVEMENTS IN ACCORDANCE WITH APPROVED PLAN;
- 2.8. SUBMIT AS-BUILT TOPOGRAPHIC PLAN AND CERTIFY THAT WETLAND MITIGATION AND COMPENSATORY FLOOD STORAGE AREAS WERE CONSTRUCTED AND PLANTED ACCORDING TO APPROVED PLAN;
- 2.9. SUBMIT PERFORMANCE GUARANTY FOR COST OF PLANTINGS IN MITIGATION AREA TO BE HELD FOR 3 YEARS;
- 2.10. RELOCATE OSPREY NESTS PER DIRECTION OF NH FISH AND GAME DEPT.;

OTHER:

- 2.11. MAINTAIN PROPOSED POND SURFACE ELEVATION OF 122.00 FOR NEW POND;
- 2.12. SUBMIT MONITORING REPORTS FROM WETLAND SCIENTIST FOR 3 YEARS;
- 2.13. ALL REPRESENTATIONS MADE BY APPLICANT OR AGENTS AND ALL NOTES ON PLANS ARE INCORPORATED AS PART OF APPROVAL.

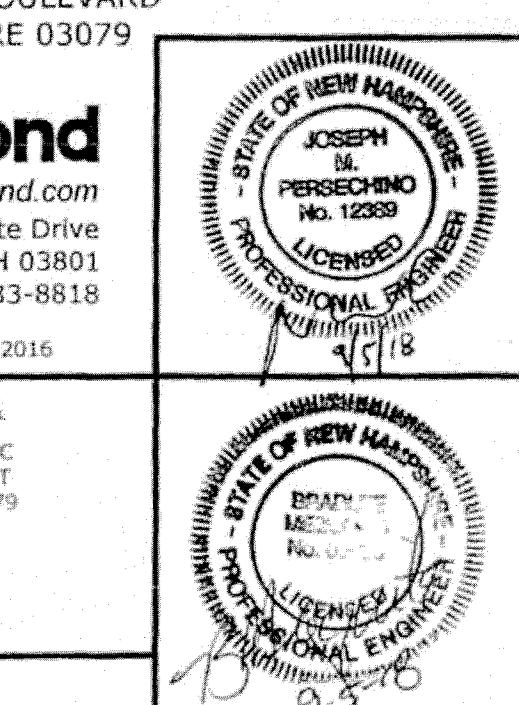
2.B ON MAY 8, 2018 THE PLANNING BOARD VOTED TO APPROVE THIS SITE PLAN SUBJECT TO THE FOLLOWING CONDITIONS:

- 2.1. PAY FOR OUTSIDE INSPECTIONS PER DIRECTION OF ENGINEERING DIVISION;
- 2.2. COMPLY WITH STATE PERMIT (WETLANDS, ALTERATION OF TERRAIN);
- 2.3. SUBMIT FINAL APPROVAL FROM FEMA AFTER FLOODPLAIN IMPROVEMENTS ARE COMPLETED;
- 2.4. SUBMIT FINAL APPROVAL FROM NH DOT PRIOR TO WORK ON THEIR PROPERTY;
- 2.5. SUBMIT PERFORMANCE GUARANTY FOR COST OF PLANTINGS IN MITIGATION AREA TO BE HELD FOR 3 YEARS;
- 2.6. SUBMIT MONITORING REPORTS FROM WETLAND SCIENTIST FOR 3 YEARS;
- 2.7. REVIEW EROSION POTENTIAL PER RECOMMENDATION FROM RCD;
- 2.8. SUBMIT APPROVAL FROM ENGINEERING DIVISION FOR PLAN REVISIONS PRIOR TO CONSTRUCTION AND SUBMIT 17 HYDROLOGY STUDY AND MEMORANDUM OF UNDERSTANDING ON MAINTENANCE RESPONSIBILITIES PRIOR TO FIRST OCCUPANCY PERMIT FOR SOUTH VILLAGE;
- 2.9. CONSTRUCT ALL SITE IMPROVEMENTS IN ACCORDANCE WITH APPROVED PLAN;
- 2.10. SUBMIT AS BUILT TOPOGRAPHIC PLAN AND CERTIFY THAT WETLAND MITIGATION AND COMPENSATORY FLOOD STORAGE AREAS WERE CONSTRUCTED AND PLANTED ACCORDING TO APPROVED PLAN;
- 2.11. ALL REPRESENTATIVE MADE BY APPLICANT OR AGENT AND ALL NOTES ON PLANS ARE INCORPORATED AS PART OF APPROVAL.

COMPLETE SET 26 SHEETS

COVER SHEET
FLOODPLAIN IMPROVEMENT PROJECT
SALEM PROPERTY MAP 98 LOTS 7887, 12502, 12507, 12543
39 PLEASANT STREET
56-60 SOUTH BROADWAY
71 ROCKINGHAM PARK BOULEVARD
SALEM, NEW HAMPSHIRE 03079

Tighe & Bond
www.tighebond.com
177 Corporate Drive
Portsmouth, NH 03801
(603) 433-8818



SCALE: AS SHOWN
DATE: NOVEMBER 28, 2016

SALEM PLANNING BOARD APPROVAL
Rosa J. Mello
Approved 5/13/18
Signed 9/13/18
OMJ REALTY, LLC
63 MAIN STREET
SALEM, NH 03079

DRAWN FOR
Gove Environmental Services, Inc.
8 Continental Drive, Bldg. 2, Unit H
Exeter, NH 03833

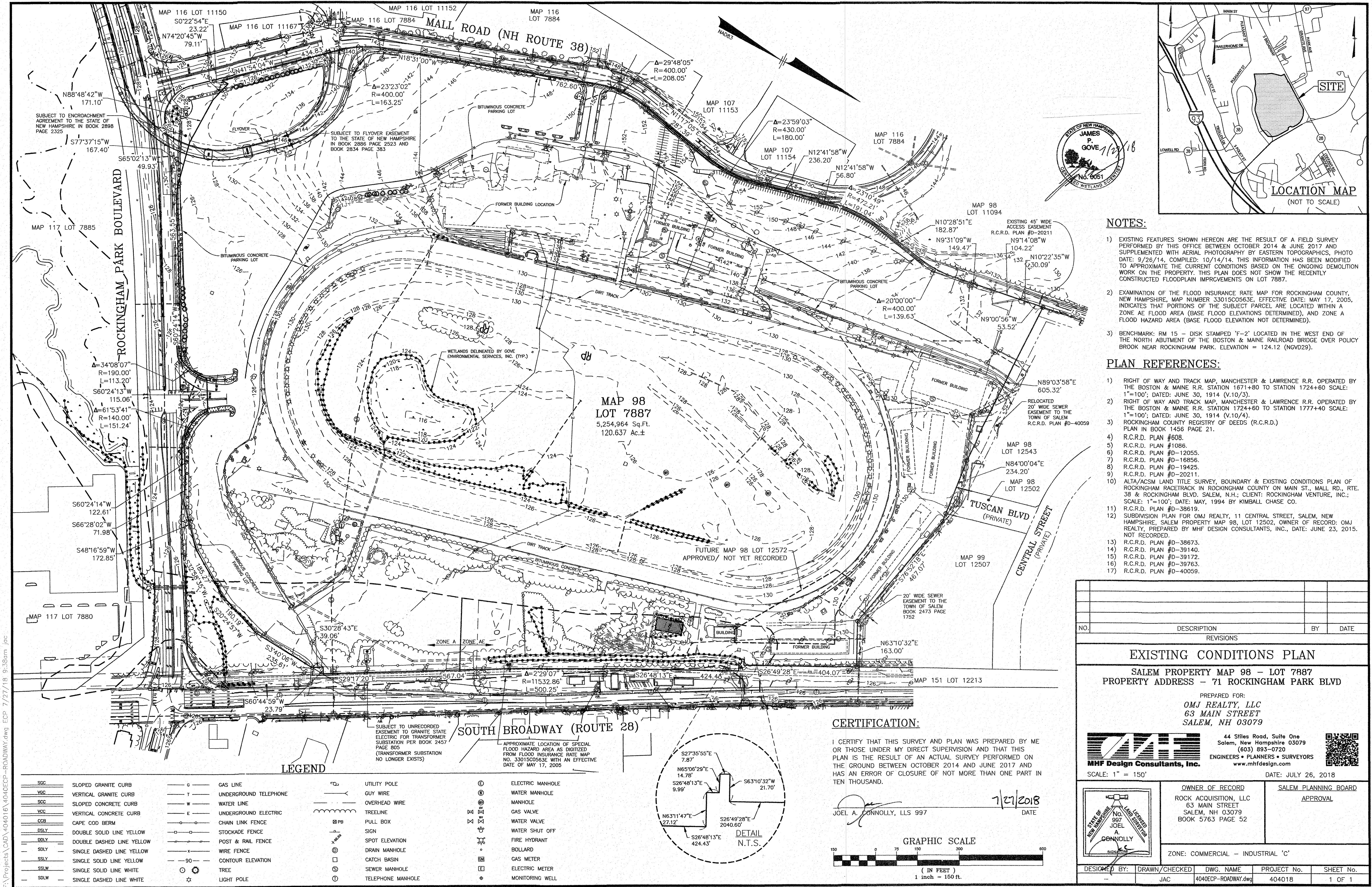
APPROVED
Rosa J. Mello
Approved 5/13/18
Signed 9/13/18
OMJ REALTY, LLC
63 MAIN STREET
SALEM, NH 03079

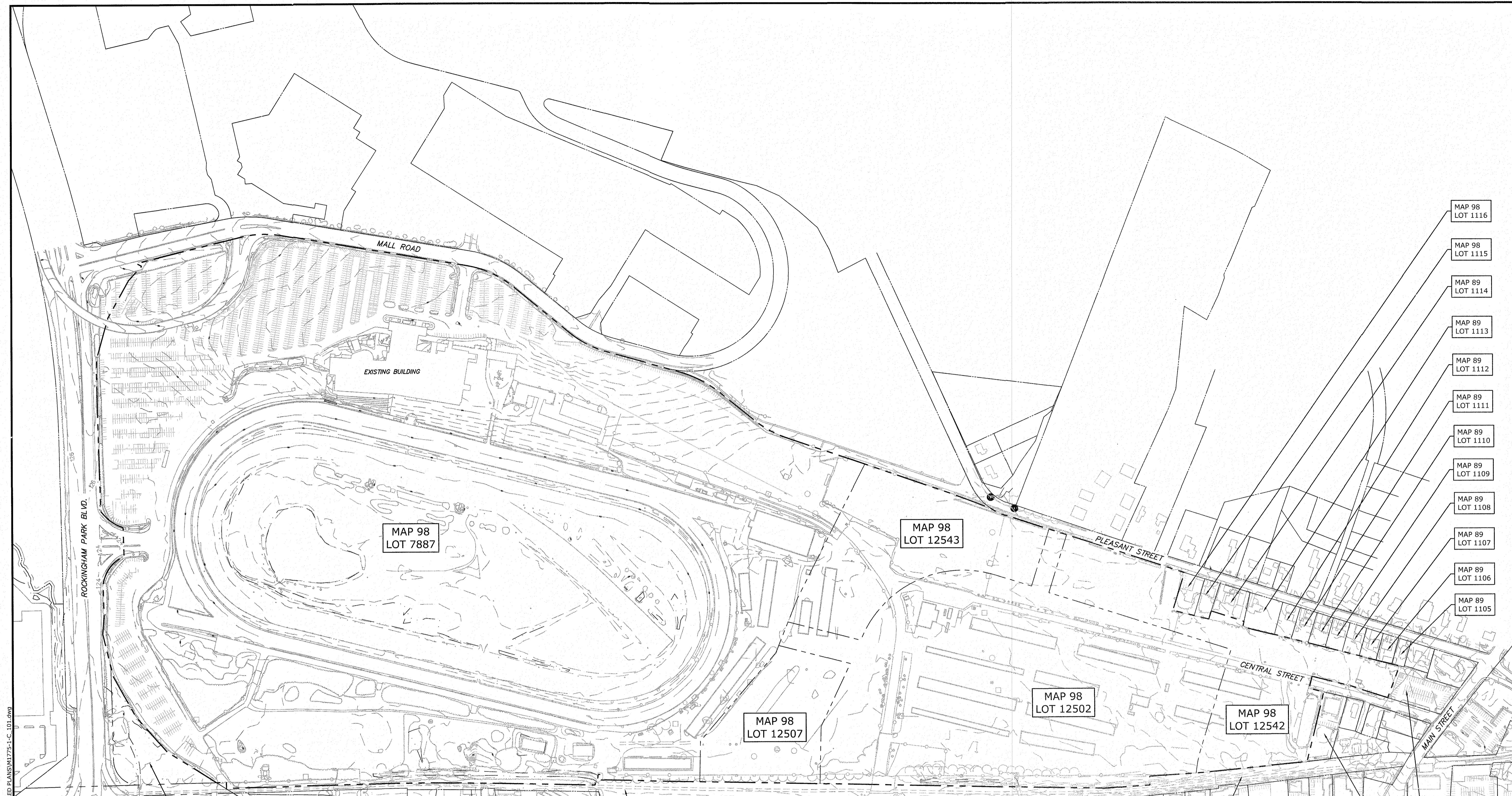
PERMIT NUMBER
M1775-1
FILE NUMBER
M1175-1-G_100.dwg
DRAWN BY
NSC
CHECKED BY
NSC
APPROVED BY
Rosa J. Mello
Approved 5/13/18
Signed 9/13/18
BLM
SHEET NUMBER
G.100

ZONE: COMMERCIAL - INDUSTRIAL 'C' & RESIDENTIAL

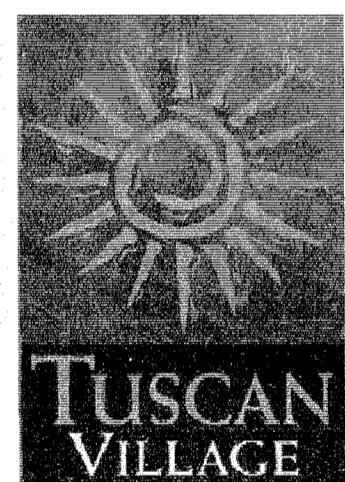
98-7887

TUSCAN Floodplain





**TUSCAN VILLAGE
FLOODPLAIN
IMPROVEMENTS**



OMJ REALTY, LLC
Salem, New Hampshire

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

MARK	DATE	DESCRIPTION
3	8/24/2018	REV. PER NH DOT COMMENTS
2	3/12/2018	REV. PER TOWN COMMENTS
1	11/17/2017	ISSUED FOR PRICING

PROJECT NO: M-1775-1
DATE: 11/28/2016
FILE: M1775-1-C_101.dwg
DRAWN BY: NSC
CHECKED: JMP
APPROVED: BLM

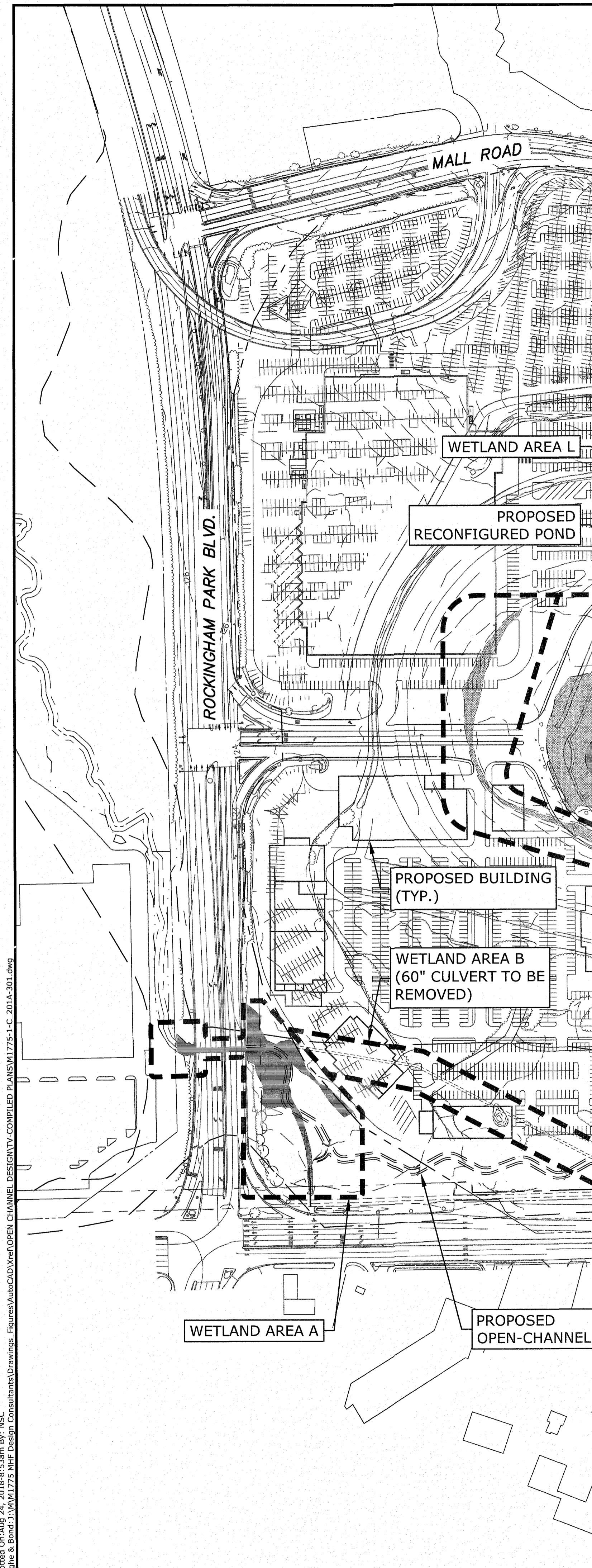
ABUTTERS VICINITY PLAN

SCALE: AS SHOWN

C.101

LEGEND
 — EXISTING PROPERTY LINE
 - - EXISTING RIGHT OF WAY
 - - - EXISTING ABUTTERS LOT LINE
 -○- PROPOSED PROPERTY LINE

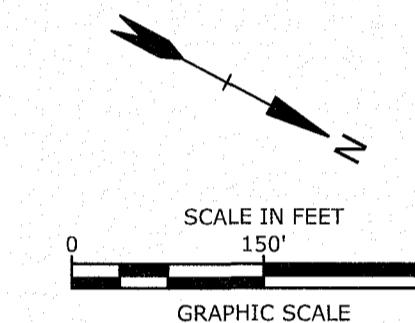
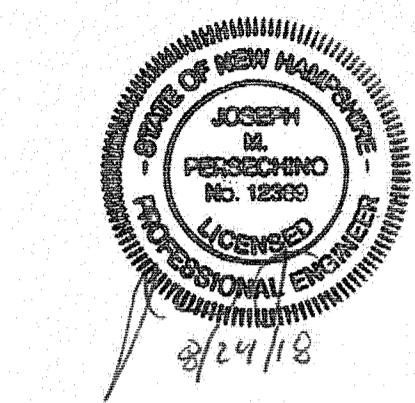
REFERENCE PLANS:
 1. THE PROPERTY LINES SHOWN ARE BASED OFF OF AN EXISTING CONDITIONS SURVEY THAT WAS PROVIDED TO
 TIGHE & BOND, INC. FROM MHF DESIGN CONSULTANTS, INC. ON SEPTEMBER 15, 2016.



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: infiel swales/ditches	4,489					
I	Wetland impact: infiel swales/ditches	4,184					
J	Wetland impact: infiel swales/ditches	42,828					
K	Reconfiguring the main irrigation pond					77,279 (2)	
L	Wetland impact: infiel 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.



PERMIT DRAWINGS

TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS



OMJ REALTY, LLC
Salem, New Hampshire

VERIFY SCALE
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ORIGINAL DRAWING
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SCALES ACCORDINGLY

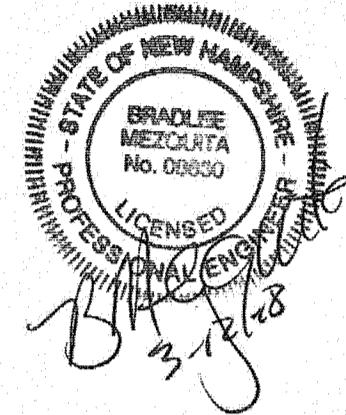
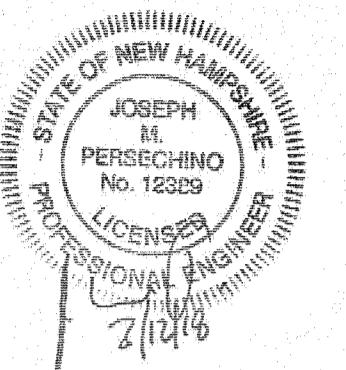
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9	3/12/2018	REV. PER TOWN COMMENTS
8	12/20/2017	REV. IMPACT AREAS
7	11/20/2017	REV. IMPACT AREAS
6	11/17/2017	ISSUED FOR PRICING
5	11/3/2017	REV. IMPACT AREAS
4	5/8/2017	REV. PER NHDES COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD 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

C.201A



SCALE IN FEET
0 50' 100'

PERMIT DRAWINGS

**TUSCAN VILLAGE
FLOODPLAIN
IMPROVEMENTS**



OMJ REALTY, LLC
Salem, New Hampshire

VERIFY SCALE
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ORIGINAL DRAWING
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SCALES ACCORDINGLY

8 3/12/2018 REV. PER TOWN COMMENTS
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 NDES COMMENTS
2 2/10/2017 REV. BOX CULVERT DESIGN
1 1/19/2017 REV. PER RCCD REVIEW #1

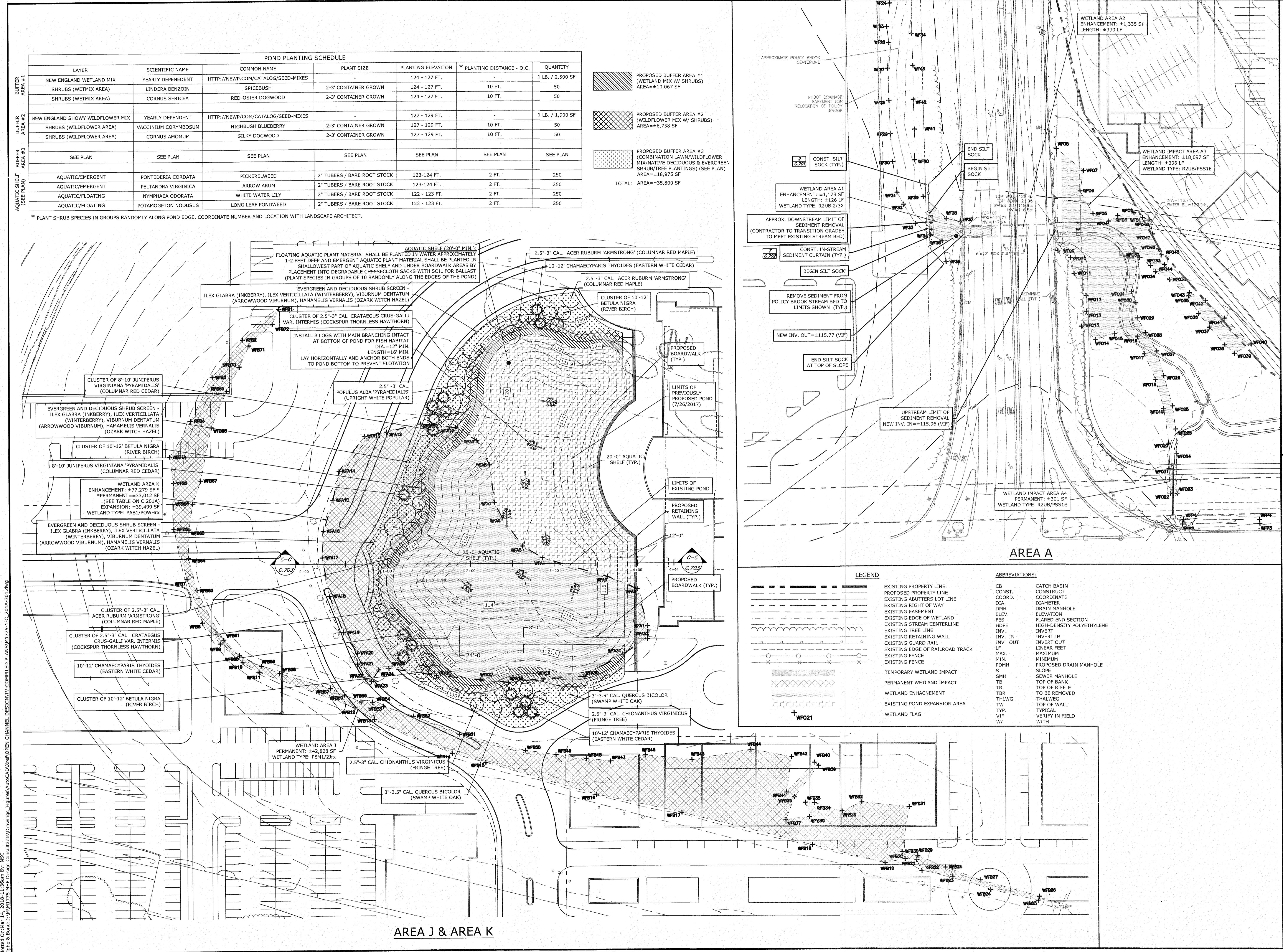
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PROJECT NO: M-1775-1
DATE: 11/28/2016
FILE: M1775-1-C_201A-301.dwg

DRAWN BY: NSC
CHECKED: JMP
APPROVED: BLM

WETLAND IMPACT PLAN

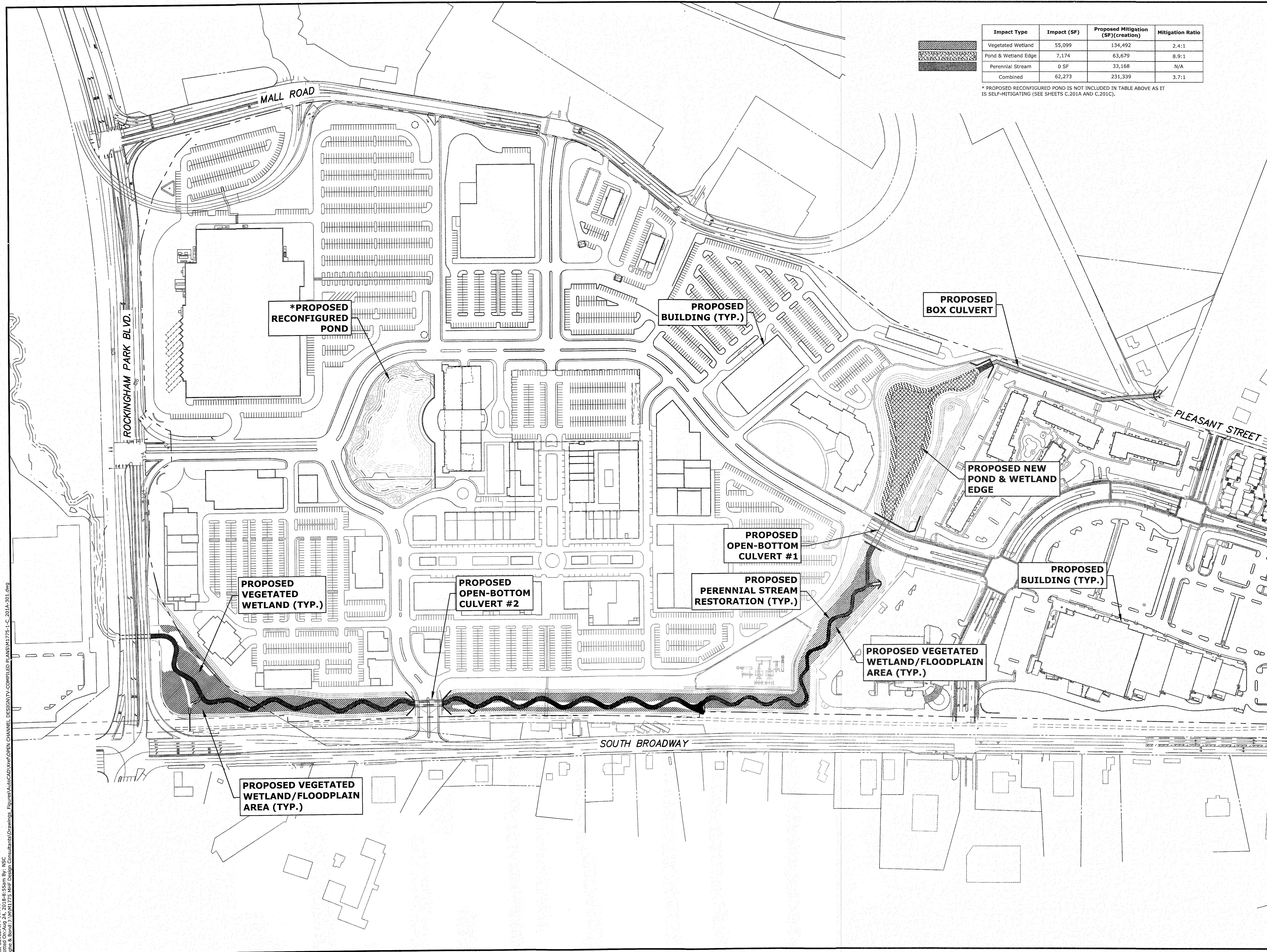
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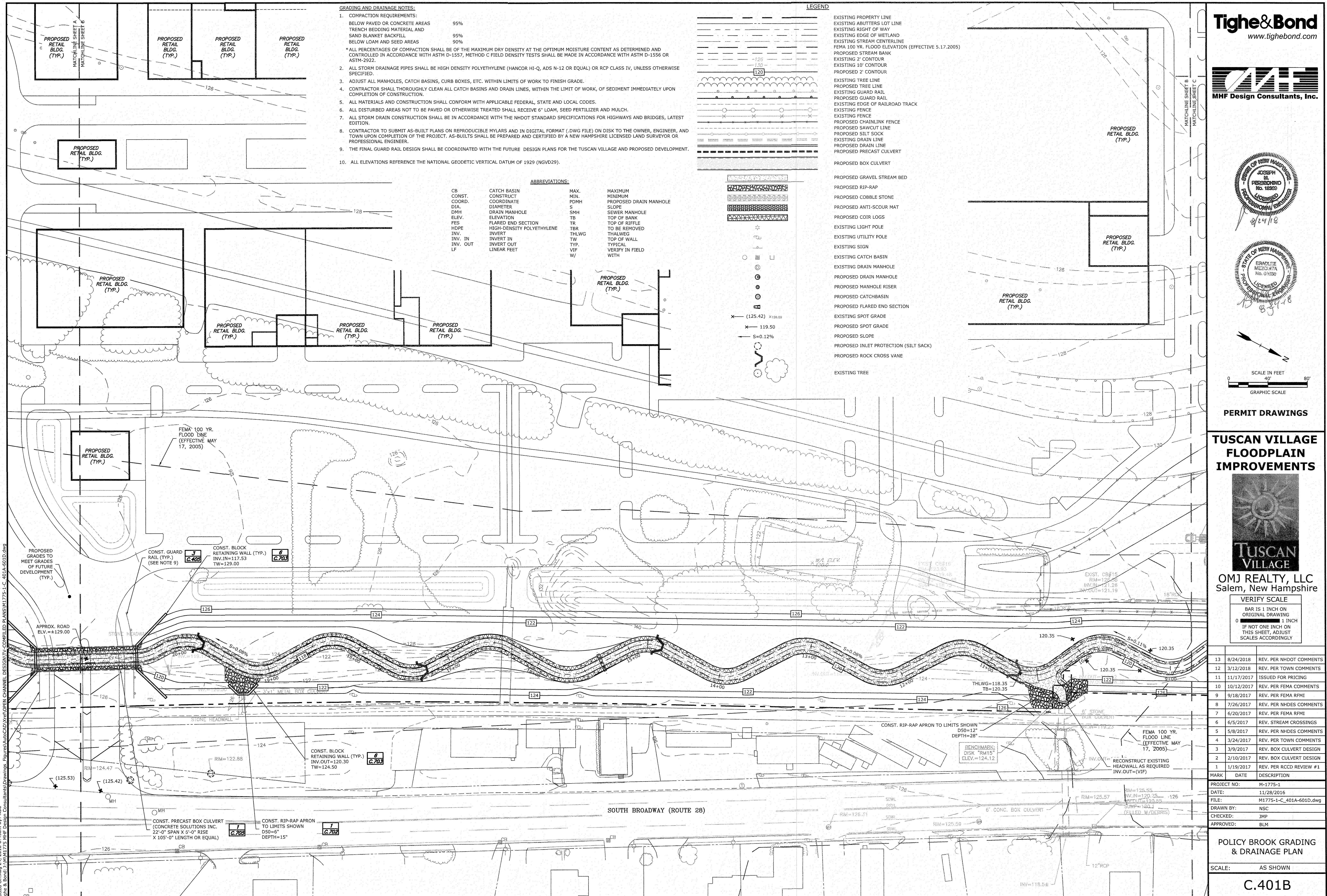
C.201C

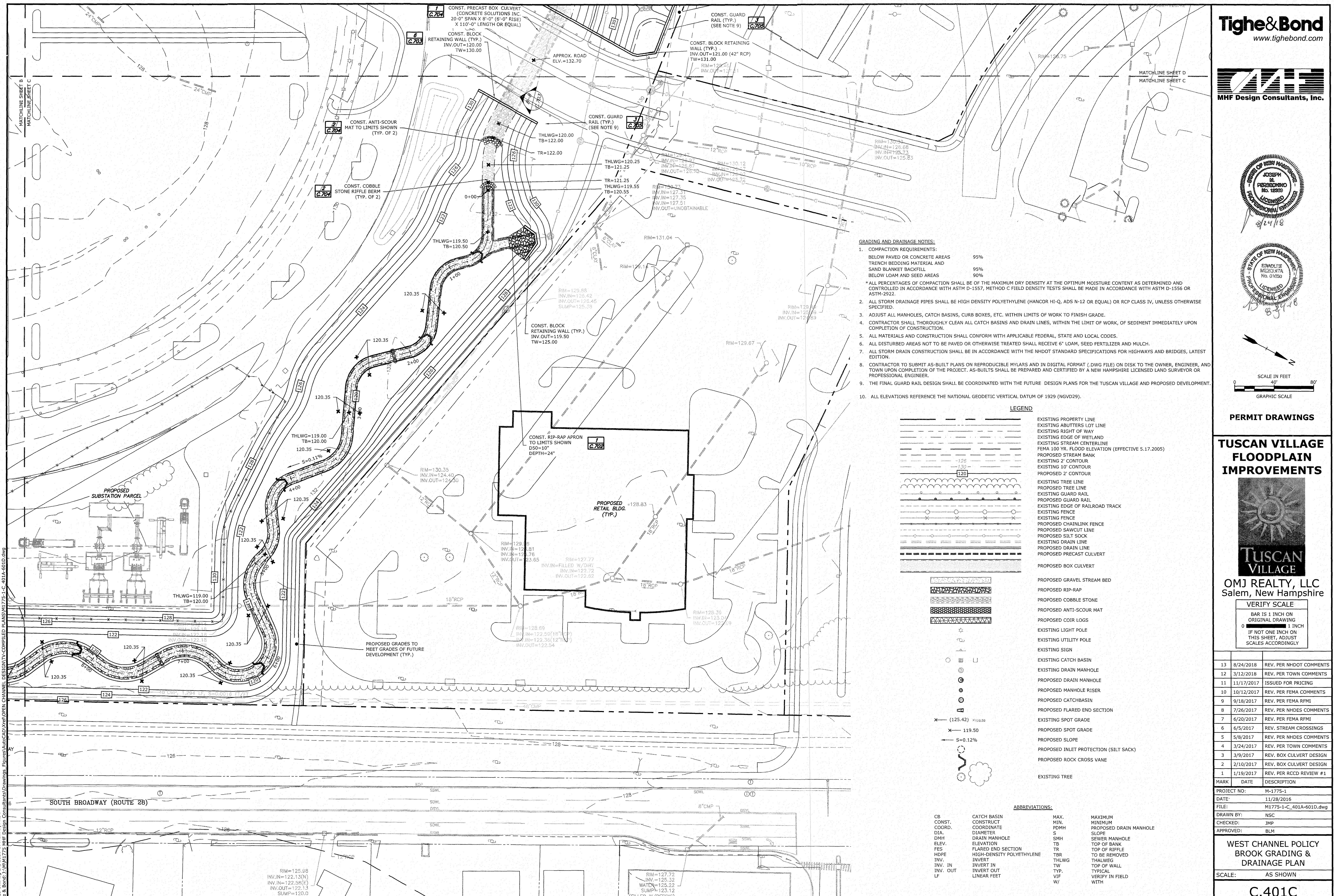


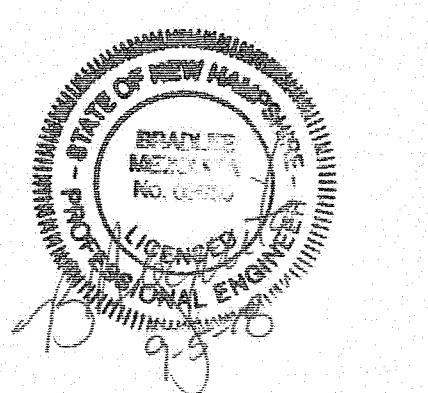
Impact Type	Impact (SF)	Proposed Mitigation (SF)(creation)	Mitigation Ratio
Vegetated Wetland	55,099	134,492	2.4:1
Pond & Wetland Edge	7,174	63,679	8.9:1
Perennial Stream	0 SF	33,168	N/A
Combined	62,273	231,339	3.7:1

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









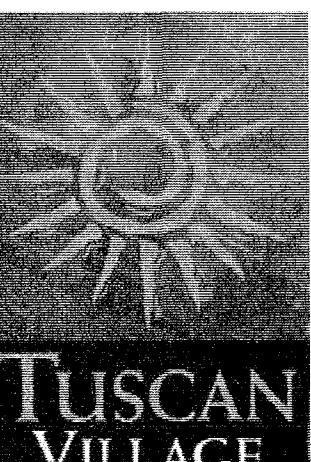
SCALE IN FEET

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GRAPHIC SCALE

PERMIT DRAWINGS

TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS

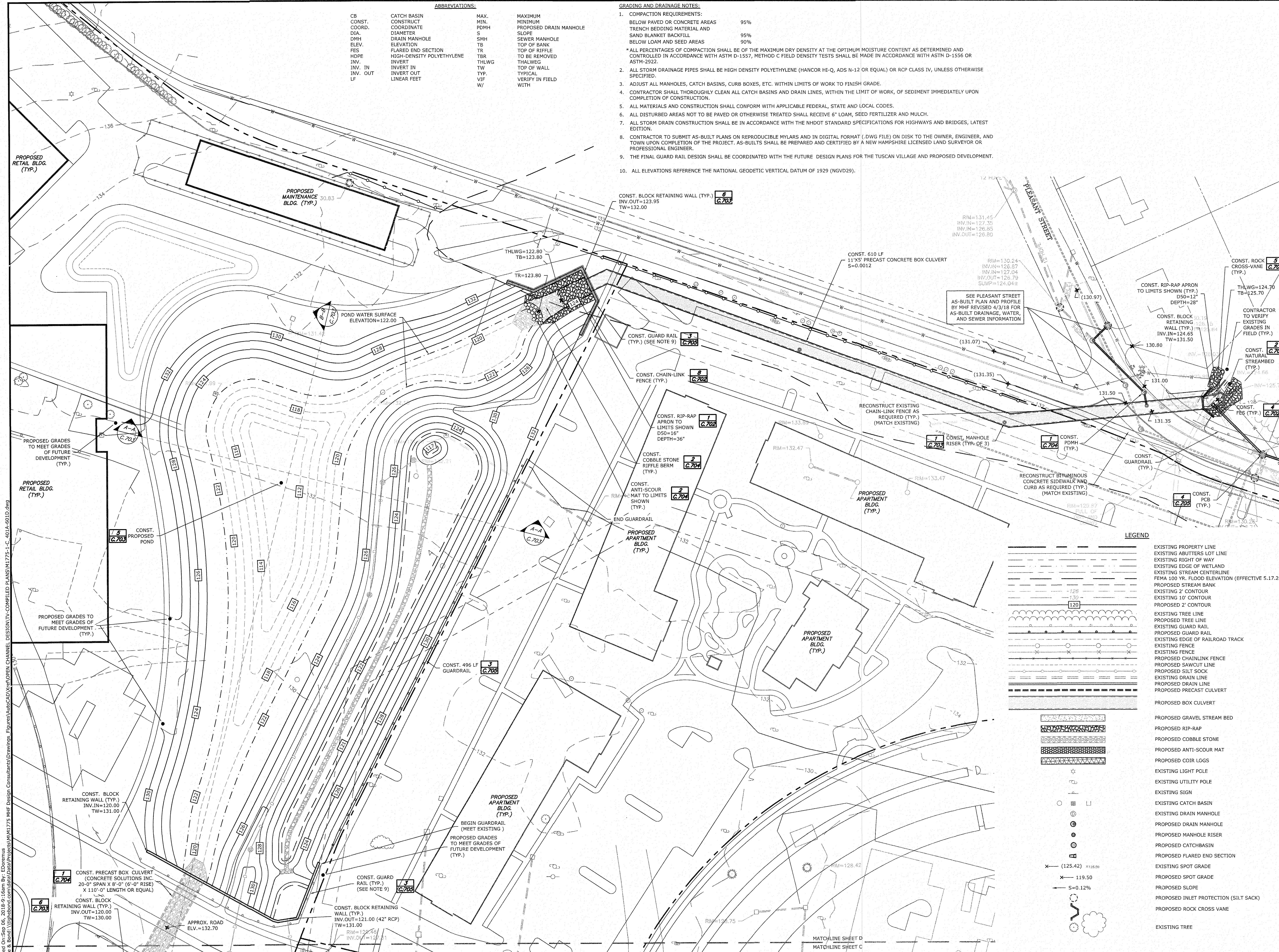


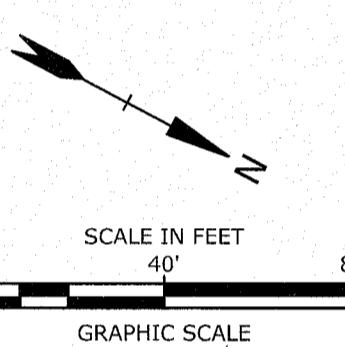
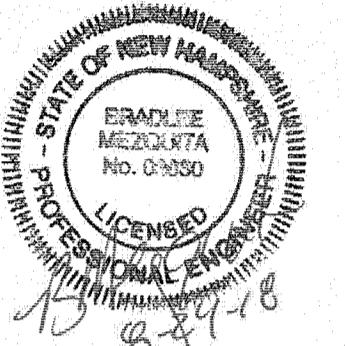
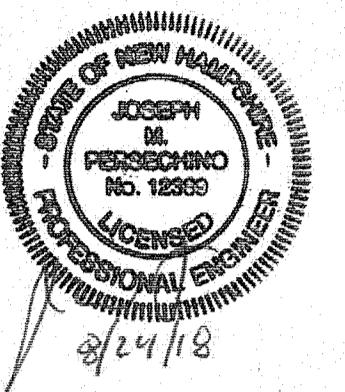
OMJ REALTY, LLC
Salem, New Hampshire

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SCALES ACCORDINGLY

14	9/5/2018	REV. GUARDRAIL LOCATION
14	8/24/2018	REV. PER NHDOT COMMENT
13	8/15/2018	REV. PER TOWN COMMENT
12	3/12/2018	REV. PER TOWN COMMENT
11	11/17/2017	ISSUED FOR PRICING
10	10/12/2017	REV. PER FEMA COMMENT
9	9/18/2017	REV. PER FEMA RFMI
8	7/26/2017	REV. PER NHDES COMMENT
7	6/20/2017	REV. PER FEMA RFMI
6	6/5/2017	REV. STREAM CROSSINGS
5	5/8/2017	REV. PER NHDES COMMENT
4	3/24/2017	REV. PER TOWN COMMENT
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #
MARK	DATE	DESCRIPTION
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 GRADING & DRAINAGE PLAN		
SCALE:	AS SHOWN	





PERMIT DRAWINGS

**TUSCAN VILLAGE
FLOODPLAIN
IMPROVEMENTS**



OMJ REALTY, LLC
Salem, New Hampshire

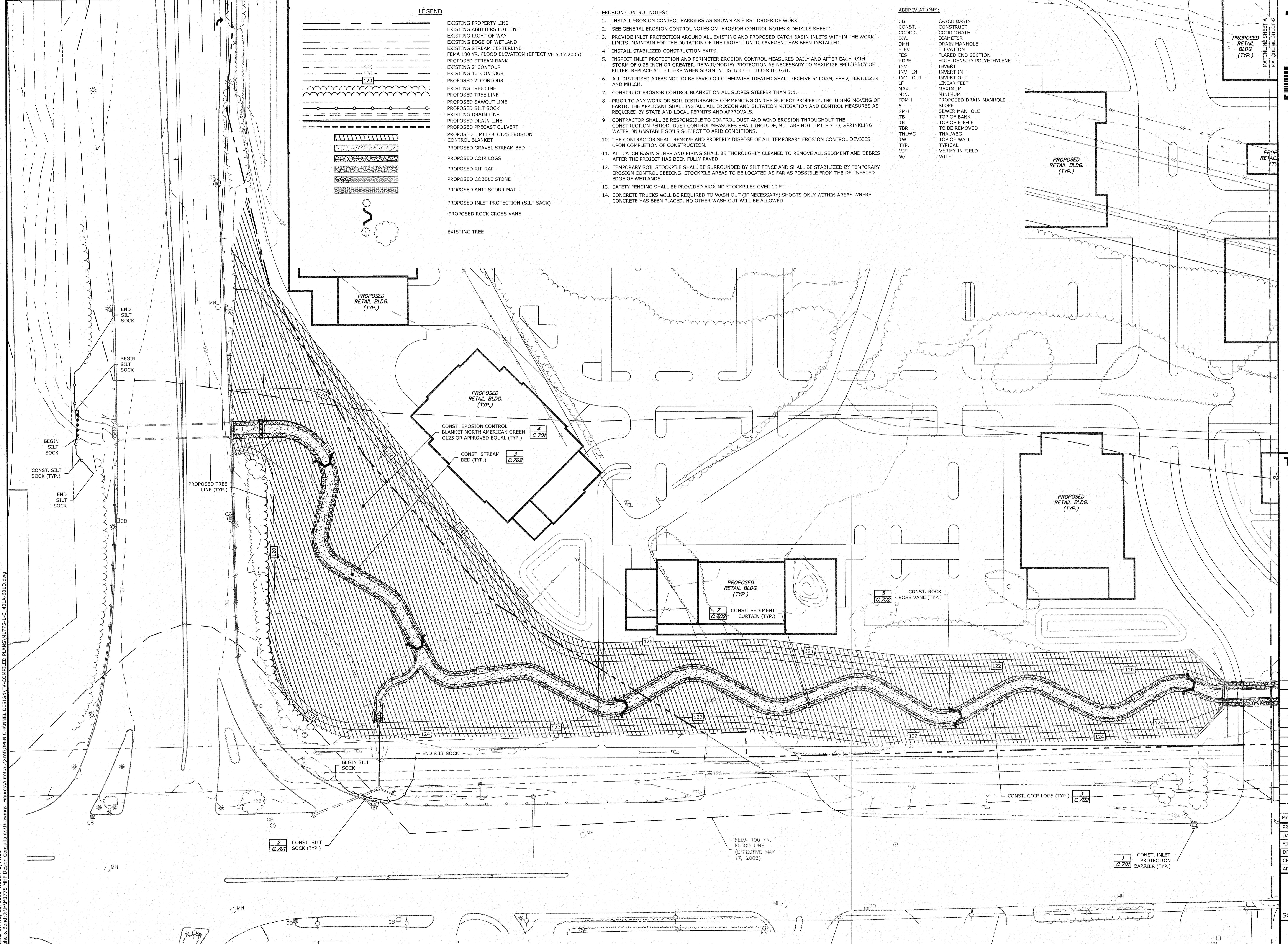
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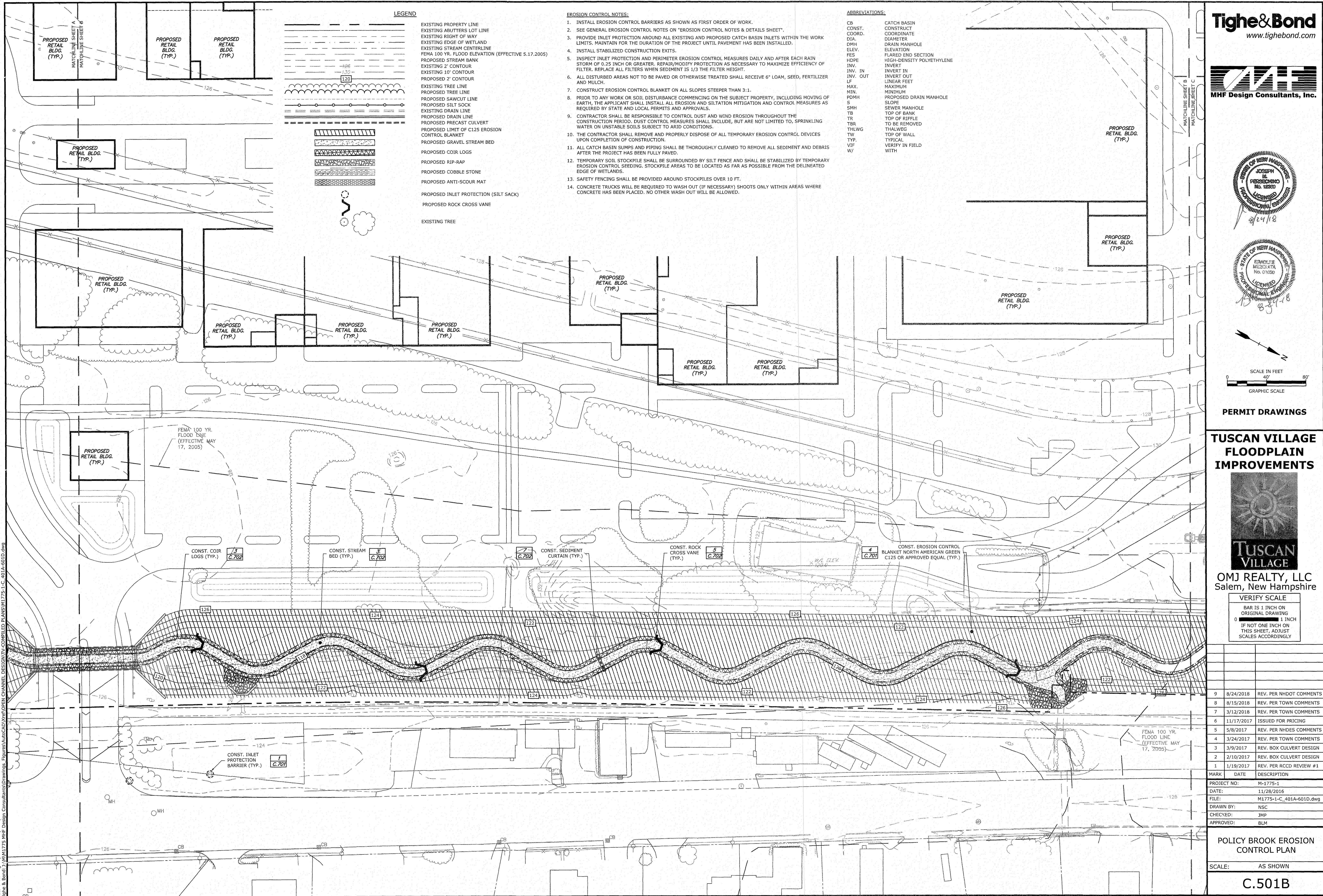
9	8/24/2018	REV. PER NHDOT COMMENTS
8	8/15/2018	REV. PER TOWN COMMENTS
7	3/12/2018	REV. PER TOWN COMMENTS
6	11/17/2017	ISSUED FOR PRICING
5	5/8/2017	REV. PER NHDES COMMENTS
4	3/24/2017	REV. PER TOWN COMMENTS
3	3/9/2017	REV. BOX CULVERT DESIGN
2	2/10/2017	REV. BOX CULVERT DESIGN
1	1/19/2017	REV. PER RCCD REVIEW #1

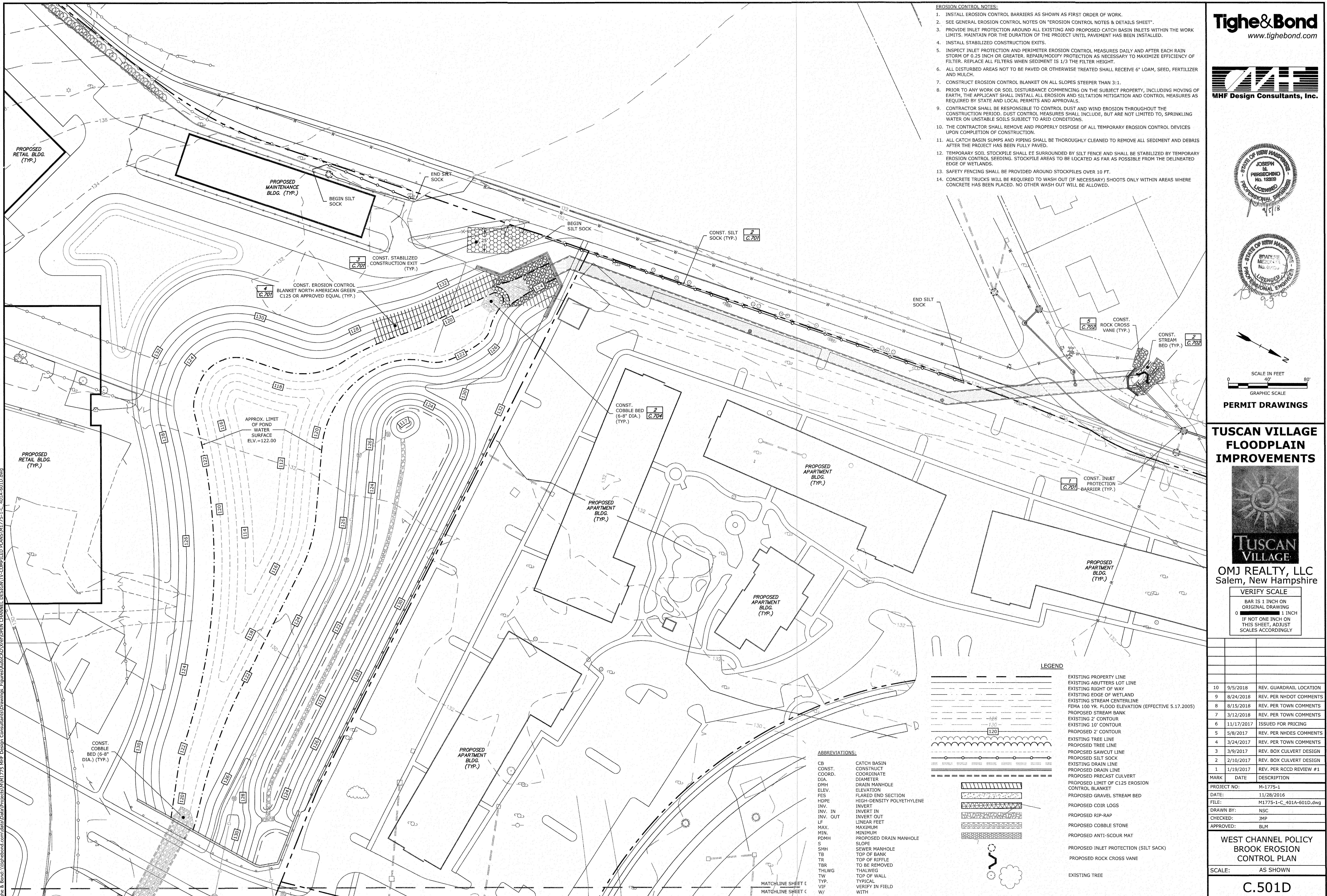
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DATE:	11/28/2016	
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CHECKED:	JMP	
APPROVED:	BLM	

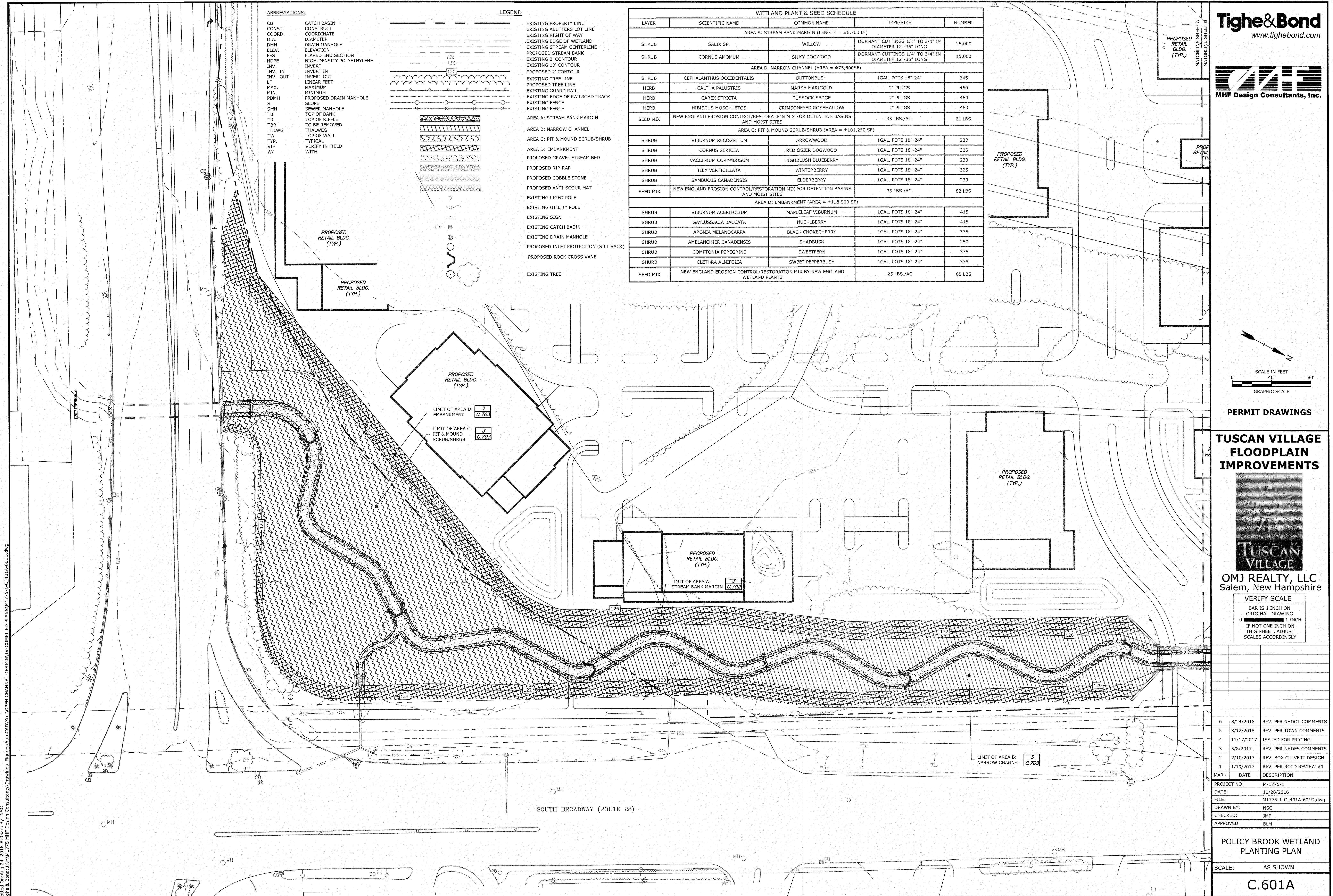
**POLICY BROOK EROSION
CONTROL PLAN**

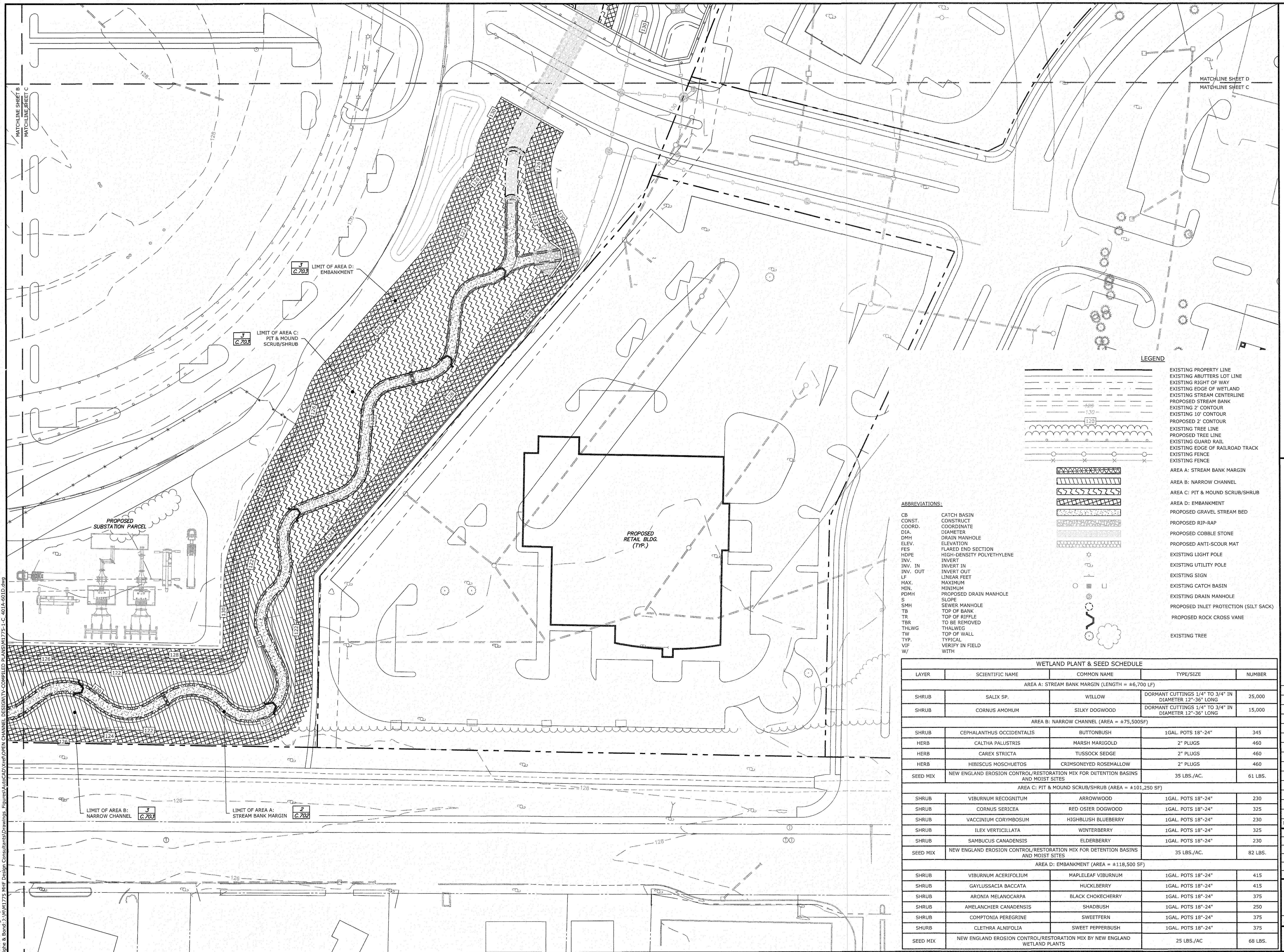
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C.501A

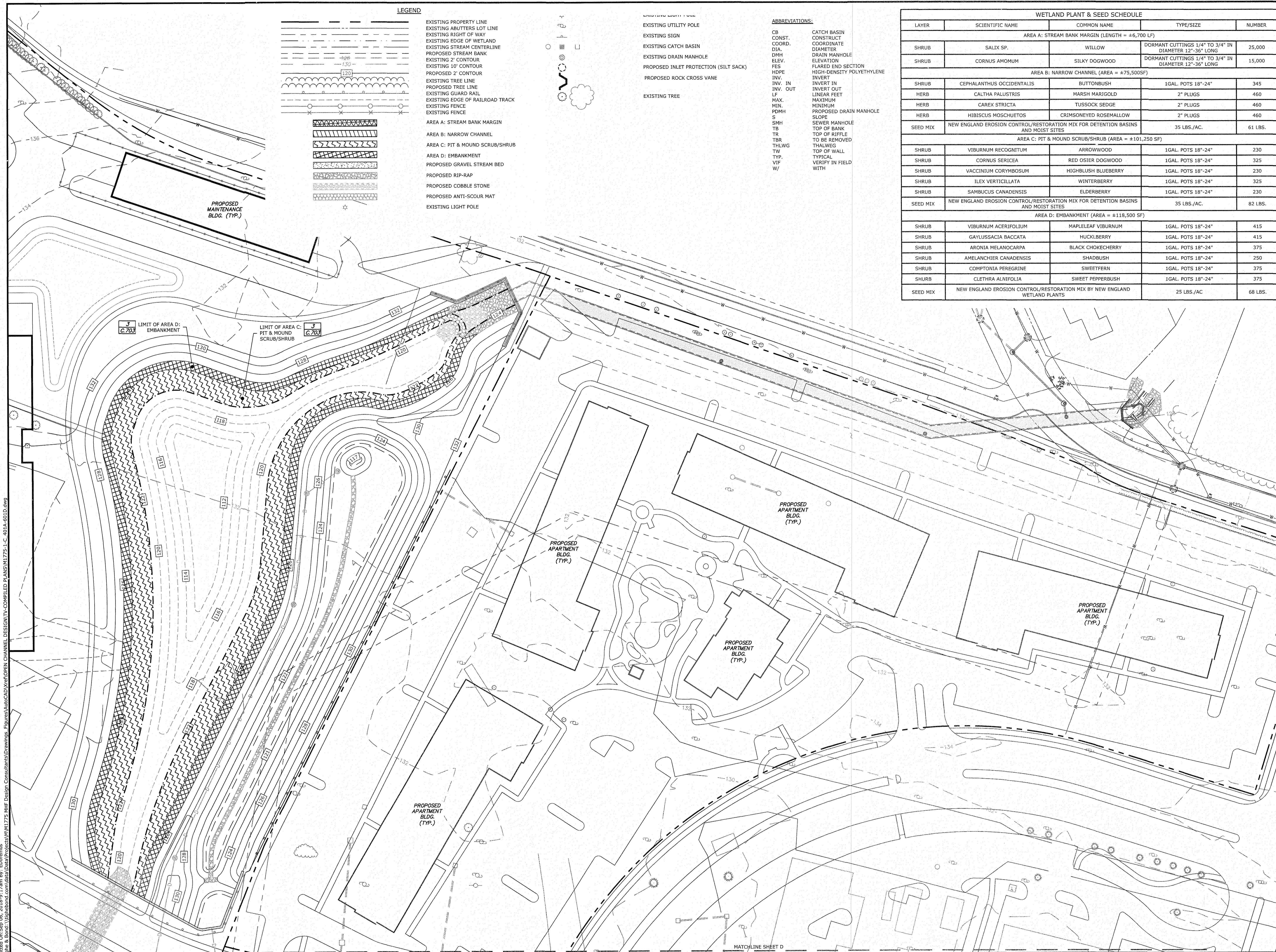












PROJECT NAME AND LOCATION
TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS
79 ROCKINGHAM PARK BOULEVARD
SALEM, NH 03079
DESCRIPTION
THE PROJECT CONSISTS OF THE REMOVAL OF EXISTING CULVERTS THAT CONVEY WEST CHANNEL AND POLICY BROOK AND TO DRAIN APPROXIMATELY 6,600 LINEAR FEET OF STREAM. THE PROJECT ALSO INCLUDES 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
1. IF PRACTICAL, 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 EROSION CONTROL BARRIERS, EARTHWALLS, 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.

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

EROSION CONTROL NOTES
1. EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANAGEMENT VOLUME 1: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY NHDES.

2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.

3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, SILT SACKS AND SILT SOCKS, AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SOCKS AND CATCH BASINS SHALL BE INSTALLED IN THE STREAM, EXCLUDING ANY PROPOSED CATCH BASIN INLETS WITHIN 50' FROM THE STREAM. EROSION AND SEDIMENT CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, SILT SACKS AND SILT SOCKS, SHALL MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.

5. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.

6. ALL EROSION CONTROL MEASURES ARE TO BE REMOVED AND PROPERLY DISPOSED OF UPON COMPLETION OF CONSTRUCTION.

7. 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 1/3 THE FILTER HEIGHT.

8. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION
1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.

D. EROSION CONTROL MEASURES HAVE BEEN PROPERLY INSTALLED.

2. ALL AREA SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

3. ALL CUT AND FILL SLOPES SHALL BE SEDED/LOADED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

4. WINTER STABILIZATION PRACTICES:
A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATION BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLATION OF APPROVED SEDIMENTATION CONTROL MEASURES WITHIN 30 DAYS AND RESEEDING 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 AFTER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

B. AFTER NOVEMBER 15TH, INCOMPLETE ROAD SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL. OR EQUIVALENT. OR CONSTRUCTION TO CONTINUE THROUGH THE WINTER SEASON, ENSURE THAT ALL ACCESSIONS AND SWALE ARE PROTECTED FROM WINTER MELT.

4. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEEN (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
A. TEMPORARY SEEDING.

B. MULCH.

4. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINQUENT WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN ALL THESE AREAS, SILT FENCES AND HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.

5. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET DRAINS FROM THE SITE WILL BE FILTERED THROUGH HAY BALE BARRIERS AND SILT FENCES OR SILT SOCKS. ANY 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
1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. 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.

3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST.

STOCKPILES
1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.

2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF CONSTRUCTION.

3. 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.

4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERRMS, SILT SOCKS, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.

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

VEGETATION
1. TEMPORARY GRASS COVER
A. SEEDED 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.

B. SEEDING:
SEEDING

2. UTILIZATION RYE GRASS AT A RATE OF 40 LBS/ACRE.

3. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF TWO (2) INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

4. 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 100% WHEN HYDROSEEDING.

C. 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.).

5. VEGETATIVE PRACTICE
A. FOR PERMANENT MEASURES AND PLANTINGS.

6. 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.

7. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE IS 100 POUNDS PER ACRE OF 10-20-20 FERTILIZER.

8. COAL COMPOSITIONS 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 BLASTERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH.

9. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE ON A CALM, DRY DAY, PREFERABLY BY HAND. SEEDING BY HAND IS THE PREFERRED WORKING IMMEDIATELY AFTER 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 ROLLED WITH A HAN ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH.

10. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE.

11. THE SURFACE SHALL BE WASHED AND ROLLED WITH A HAN ROLLER AS SPRAY IS APPLIED, WITHOUT WASHING AWAY THE SOIL UNTIL THE SURFACE IS WELL ESTABLISHED. AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

12. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED.

SEE WETLAND PLANTING PLAN FOR SEED TYPE TO BE USED.

13. 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
1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES PROHIBITED ON SITE.

2. DISCHARGES FROM FIRE-FIGHTING ACTIVITIES.

3. FIRE HYDRANT FLUSHINGS.

4. WATERS USED TO CONTROL DUST.

5. ROUTINE EXTERNAL BUILDING WASH DOWN -NO DETERGENTS.

6. PAVEMENT WASH WATERS -NO SPILLS OR DETERGENTS.

7. UNCONTAMINATED GROUND WATER OR SPRING WATER.

8. FILTERED OR FLOWING DRAINS -NOT CONTAMINATED.

9. UNCONTAMINATED GROUNDWATER DEWATERING.

10. LANDSCAPE IRRIGATION.

ALLOWABLE NON-STORMWATER DISCHARGES
1. DISCHARGES FROM FIRE-FIGHTING ACTIVITIES
2. FIRE HYDRANT FLUSHINGS
3. WATERS USED TO CONTROL DUST
4. ROUTINE EXTERNAL BUILDING WASH DOWN -NO DETERGENTS
5. PAVEMENT WASH WATERS -NO SPILLS OR DETERGENTS
6. UNCONTAMINATED GROUND WATER OR SPRING WATER
7. FILTERED OR FLOWING DRAINS -NOT CONTAMINATED
8. LANDSCAPE IRRIGATION

WASTE DISPOSAL

1. WASTE MATERIALS
A. 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 DUMPSTER.
B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE.
C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.

2. HAZARDOUS WASTE

A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER.

B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.

3. SANITARY WASTE

A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

4. SPILL PREVENTION

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT PRACTICES OUTLINED BELOW.

2. 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:

A. GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL FOLLOW ON SITE DURING THE CONSTRUCTION PROJECT:

1. ONLY APPROVED CONSTRUCTION MATERIALS SHALL BE STORED ON SITE.

2. 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.

3. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.

4. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.

5. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

6. WHENEVER POSSIBLE, A PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.

B. HAZARDOUS PRODUCTS:

THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:

1. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.

2. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.

3. CONTAINERS THAT ARE NO LONGER USED SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

C. PRODUCT SPECIFICATION PRACTICES:

THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL FOLLOW ON SITE:

1. PETROLEUM PRODUCTS:

A. ALL SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE.

B. 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.

2. FERTILIZERS:

A. FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS.

B. ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER.

C. STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO STORE.

3. PAINTS:

A. ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE.

B. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM.

C. EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

D. SPILL CONTROL:

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:

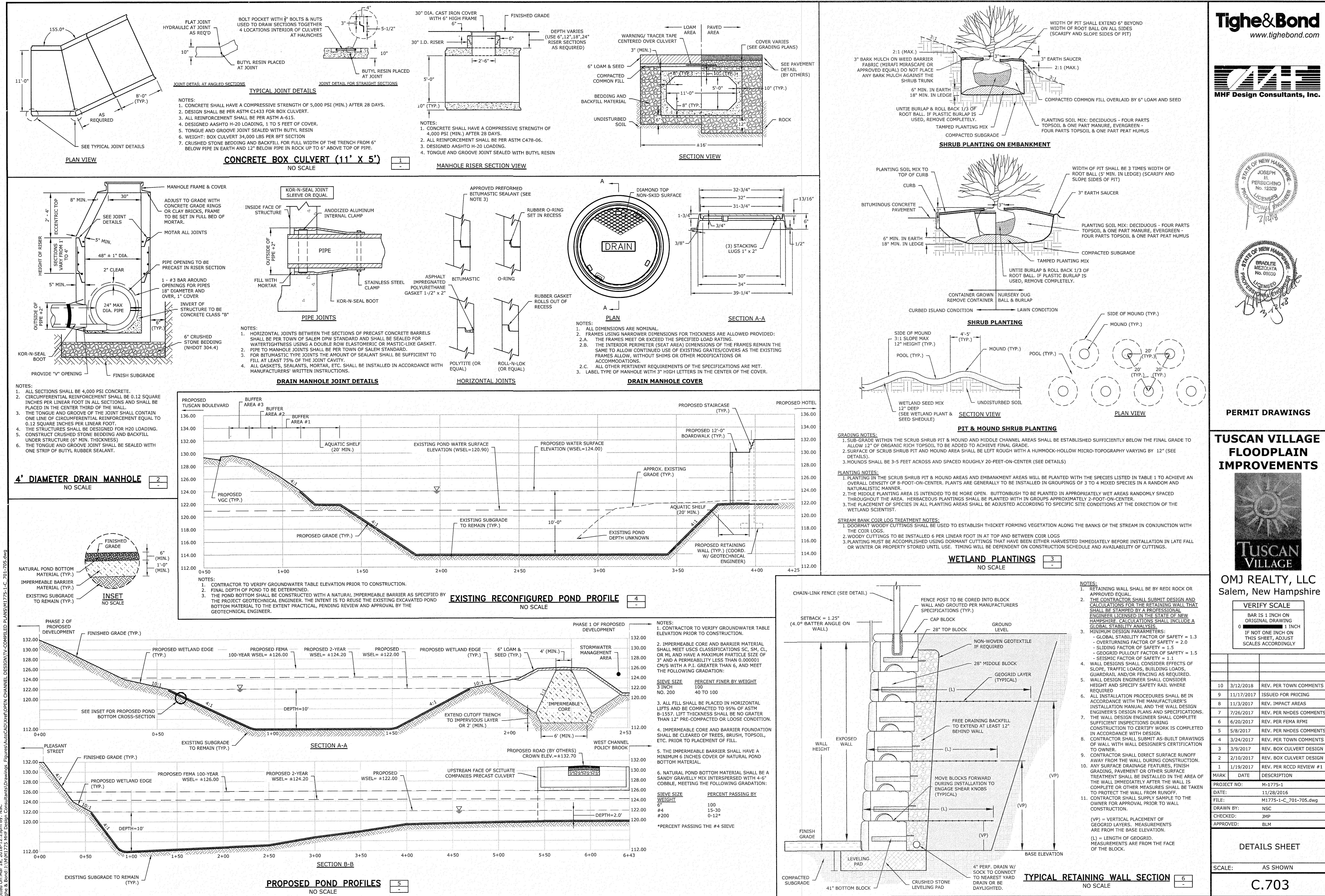
1. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

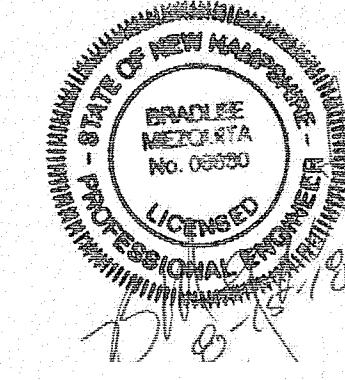
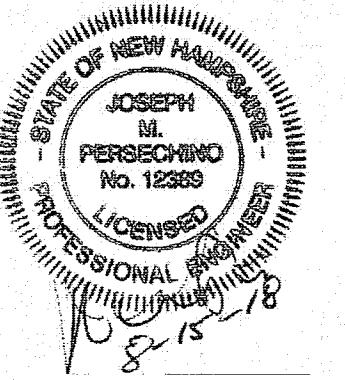
2. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. SPILL KITS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, ROLPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

3. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

4. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

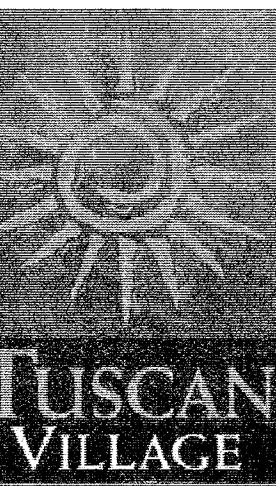
5. IN CASE OF HAZARDOUS OR





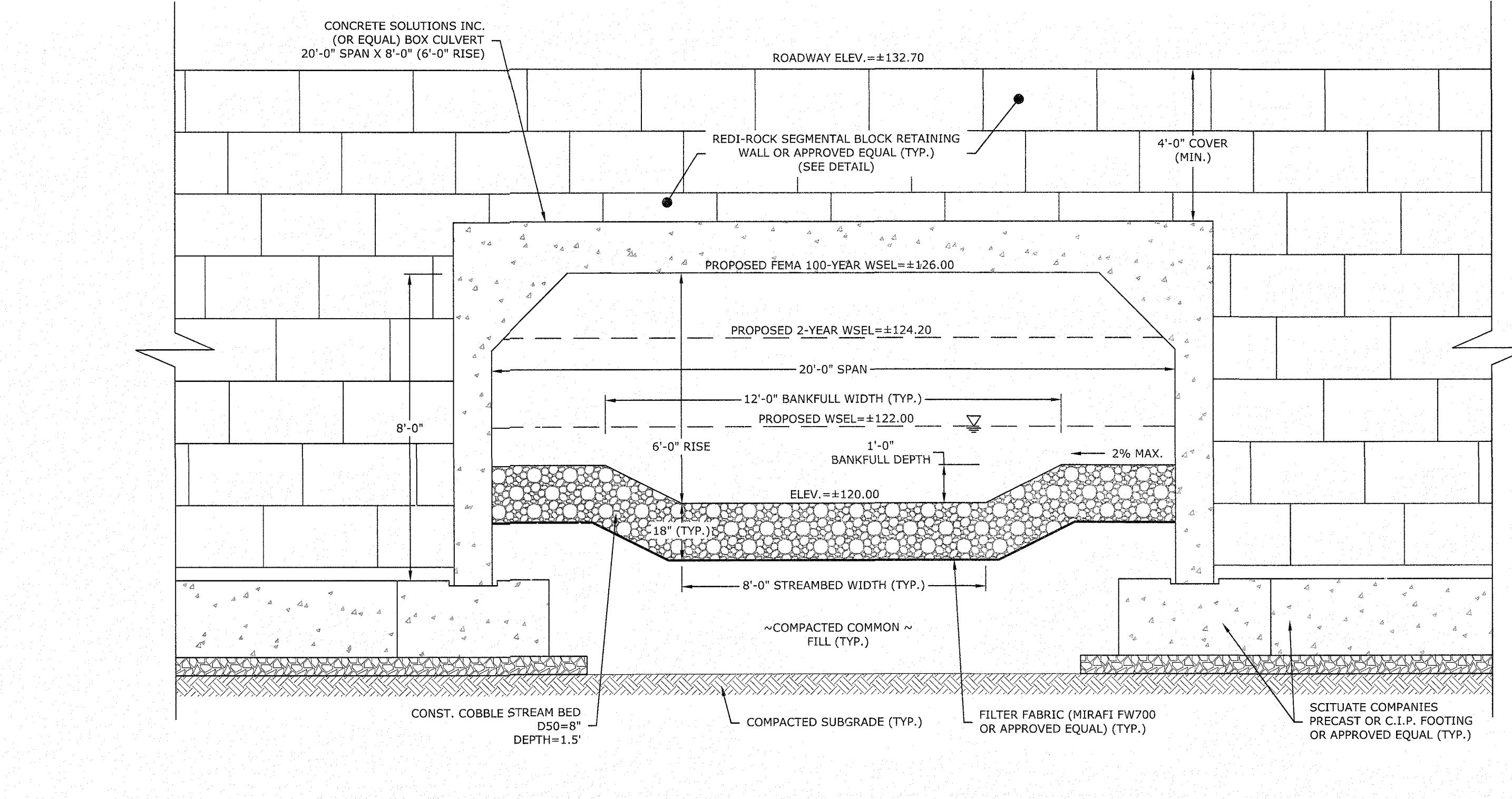
PERMIT DRAWINGS

TUSCAN VILLAGE FLOODPLAIN IMPROVEMENTS



OMJ REALTY, LLC
Salem, New Hampshire

VERIFY SCALE
BAR IS 1 INCH ON ORIGINAL DRAWING
0 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 1 INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



CULVERT NOTES:

1. THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION SHALL BE BY CON/SPAN BRIDGE SYSTEMS OR APPROVED EQUAL.
2. THE DESIGN OF THE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" 17TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE TRANSPORTATION OFFICIALS (AASHTO), 2002, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT), 2010 AND THE MANUFACTURER'S SPECIFICATIONS.
3. THE STREAMBED SHALL BE PREPARED AND STRUCTURED TO WITHSTAND MASTIC HS-20-44 LOADING.
4. THE DESIGN OF THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THE DESIGN AND SUBMITTAL SHALL INCLUDE THE FOLLOWING REQUIREMENTS:
 - A. THE DESIGN SHALL INCLUDE DETAILED COMPUTATIONS AND ALL DETAILS, DIMENSIONS, QUANTITIES AND CROSS SECTIONS NECESSARY TO CONSTRUCT THE STRUCTURE.
 - B. THE DESIGN SHALL CONFORM TO ALL OF THE REQUIREMENTS NOTED ABOVE. IN THE EVENT THAT TWO OR MORE SPECIFICATIONS APPLY TO THE WORK, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.
 - C. THE DESIGN PLANS SHALL BE ON 24"X36" PLANS WITH THE PROJECT NAME, NUMBER AND DESIGN FIRM NOTED.
 - D. THE DESIGN SHALL INCLUDE ALL BEDDING, BACKFILL AND INSTALLATION PROCEDURES.
 - E. THE DESIGN SHALL INCLUDE A SCOUR ANALYSIS OF THE PROPOSED STREAM CROSSING AS PART OF THE FOUNDATION DESIGN.
 - F. ALL PLANS AND COMPUTATIONS SHALL BE PREPARED, STAMPED AND SIGNED BY A NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER.
5. THE DESIGN ENGINEER FOR THE PRECAST CONCRETE CULVERT, HEADWALLS, WINGWALLS AND FOUNDATION SHALL PERFORM SUFFICIENT INSPECTIONS DURING CONSTRUCTION TO CERTIFY THAT THE INSTALLATION IS IN ACCORDANCE WITH THE DESIGN PLANS AND SPECIFICATIONS.

TEMPORARY WATER CONTROL AND DEWATERING NOTES:

1. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ADEQUATE PUMPING, DIVERSION AND DRAINAGE FACILITIES TO MAINTAIN THE EXCAVATED AREA SUFFICIENTLY DRY FROM GROUNDWATER AND/OR SURFACE RUNOFF SO AS NOT TO ADVERSELY AFFECT CONSTRUCTION PROCEDURES NOR CAUSE ENVIRONMENTAL DISTURBANCE OF UNDERLYING OR SURROUNDING NATURAL GROUND.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED FOR DEWATERING ACTIVITIES AND TAKE ACTIONS NECESSARY TO ENSURE THAT DEWATERING DISCHARGES COMPLY WITH PERMITS APPROPRIATELY ISSUED FOR THE ACTIVITIES. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES IN SUCH A MANNER AS TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR THE ENVIRONMENT.
3. THE CONTRACTOR SHALL BRACE OR OTHERWISE PROTECT PIPELINES AND STRUCTURES NOT STABLE AGAINST UPLIFT DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOT EXCAVATE UNTIL THE DEWATERING SYSTEM IS OPERATIONAL AND THE EXCAVATION MAY PROCEED WITHOUT DISTURBANCE TO THE FINAL SUBGRADE OR SURROUNDING AREAS.
5. THE CONTRACTOR SHALL CONTINUE DEWATERING UNINTERRUPTED UNTIL THE STRUCTURES, PIPES AND APPURTENANCES TO BE INSTALLED HAVE BEEN COMPLETED SUCH THAT THEY WILL NOT FLOAT OR BE OTHERWISE DAMAGED BY AN INCREASE IN GROUNDWATER ELEVATION.

6. Dewatering Discharge:
 - A. INSTALL SAND AND GRAVEL, OR CRUSHED STONE, FILTERS IN CONJUNCTION WITH SUMPS, WELL POINTS, AND/OR DEEP WELLS TO PREVENT THE MIGRATION OF FINES FROM THE EXISTING SOIL DURING THE DEWATERING OPERATION.
 - B. WATER PUMPED FROM EXCAVATIONS MUST BE PASSED THROUGH A SILT FILTER BAG OR OTHER SUCH BEST MANAGEMENT PRACTICE (BMP) FEATURE PRIOR TO BEING DISCHARGED BACK TO A SURFACE WATER BODY.
 - C. DO NOT DISCHARGE WATER INTO ANY SANITARY SEWER SYSTEM.
 - D. ALL DEWATERING DISCHARGES SHALL BE OUTSIDE OF ANY WETLAND SYSTEMS.
 - E. FOLLOWING TREATMENT IN AN APPROPRIATE BMP, WATER PUMPED FROM EXCAVATIONS SHOULD GENERALLY DISCHARGED ON THE DOWNSTREAM SIDE OF THE WORK AREA.
 - F. THE DISCHARGE AREA FOR THE PUMP OR SIPHON OUTLET MUST BE PROPERLY PROTECTED TO PREVENT EROSION BY HIGH VELOCITY FLOW.
 - G. DISCHARGE FLOW VELOCITY FROM PUMPS OR SIPHONS OVER UNPROTECTED, VEGETATED GROUND MUST NOT EXCEED A MAXIMUM OF 1 FOOT PER SECOND. DISCHARGE FLOW VELOCITY FROM PUMPS OR SIPHONS WITHIN THE UNPROTECTED NATURAL STREAM CHANNEL SHALL NOT EXCEED A MAXIMUM OF 3 FEET PER SECOND. IN THE EVENT EROSION RESULTS FROM VELOCITIES OF THE MAGNITUDES, THE CONTRACTOR SHALL TAKE STEPS TO MITIGATE EROSION AND PREVENT DAMAGE.

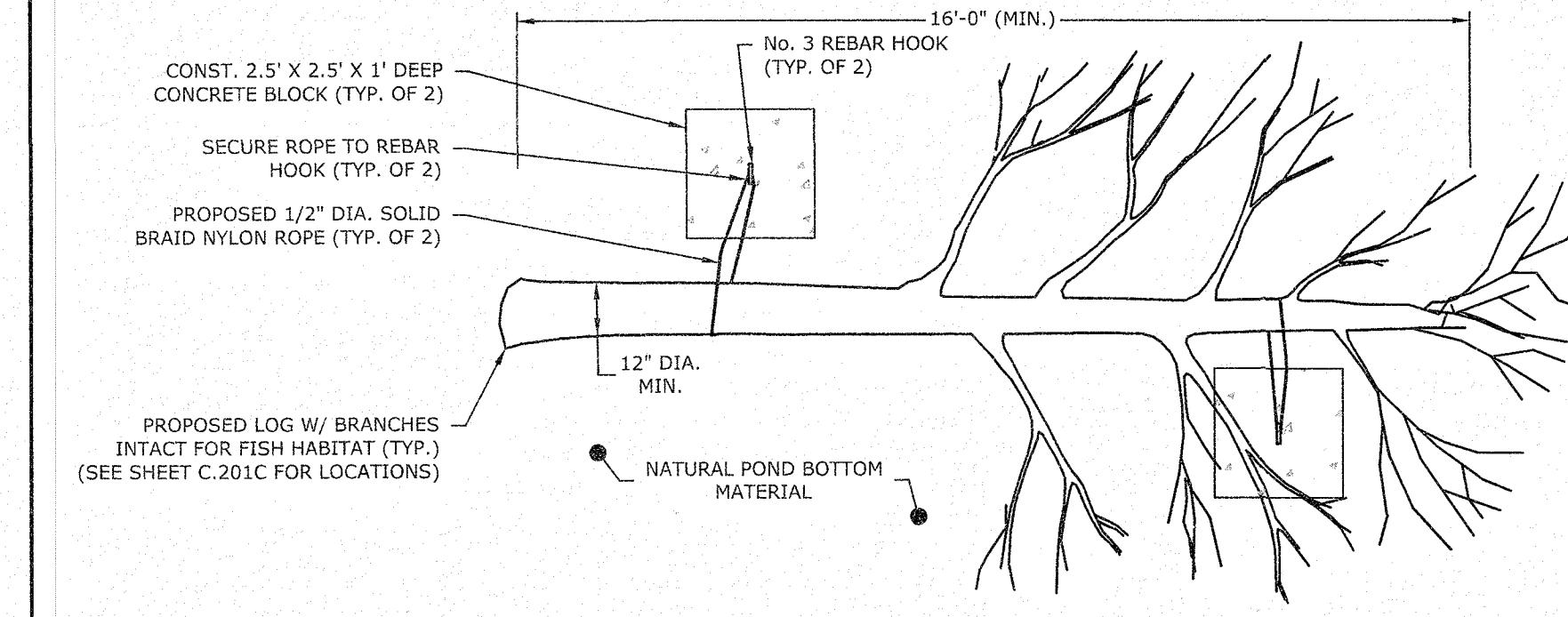
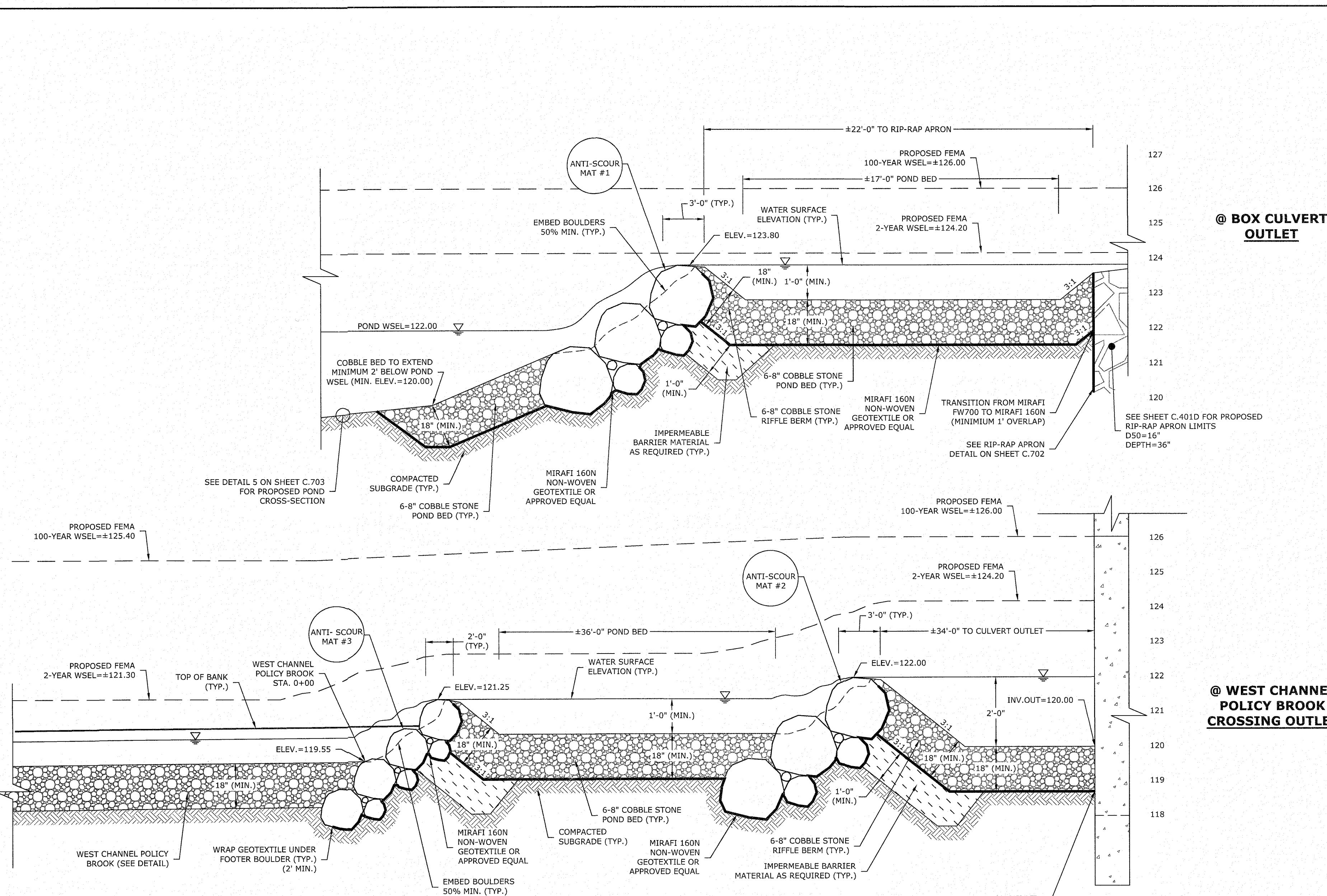
7. The Contractor shall construct temporary cofferdams as required. The exact construction details of the cofferdam shall be determined by the contractor performing the work. The contractor shall be responsible for all temporary water control, surface water and groundwater, necessary to execute and complete the work, subject to the restrictions contained in the project permits.
8. All temporary water control measures shall be implemented in conjunction with appropriate sediment and erosion control measures so as to mitigate to the greatest extent possible release of sediment into water bodies and potential erosion of soil.
9. Pumps or generators which utilize liquid fuel must be placed within an impermeable secondary containment area with sufficient capacity to contain the full volume of the fuel tank.
10. PUMP OR SIPHON INTAKES SHALL BE PLACED SUCH THAT SEDIMENT AND DEBRIS ENTRAINMENT IS MINIMIZED.
11. THE COFFERDAM SHALL NOT BE CONSTRUCTED OF UNCONTAINED FILL (SOIL, ROCK, OR ANY OTHER LOOSE MATERIAL). THESE TYPES OF COFFERDAMS ARE SPECIFICALLY DISALLOWED FOR ENVIRONMENTAL PROTECTION REASONS.

CONSTRUCTION SEQUENCE FOR STREAM CROSSING:

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.

WEST CHANNEL POLICY BROOK STREAM CROSSING SIMULATION SECTION

NO SCALE



LOG INSTALLATION FOR POND BED

NO SCALE

NOTES:

1. COBBLE STONE RIFFLE BERM/BED:
 - 1.1. SHALL BE INSTALLED PRIOR TO DREDGING - INSTALL STONE BOULDER SCOUR MAT PRIOR TO COBBLE STONE RIFFLE BERM.
 - 1.2. COBBLE STONE RIFFLE BERM AND POND BED SHALL BE 6" TO 8" SIZED ROUNDED COBBLE.
 - 1.3. SLOPE SHALL BE 3:1 MAXIMUM.
2. ANTI-SCOUR MAT:
 - 2.1. ANTI-SCOUR MAT #1 & #2: SHALL BE ROUNDED STONE WITH BOULDERS NO SMALLER THAN 24" AND WITH AN AVERAGE SIZE OF AT LEAST 36".
 - 2.2. ANTI-SCOUR MAT #3: SHALL BE ROUNDED STONE WITH BOULDERS NO SMALLER THAN 18" AND WITH AN AVERAGE SIZE OF AT LEAST 24".
 - 2.3. CHINK ANTI-SCOUR MAT BOULDERS TO MID HEIGHT WITH SMALLER STONE TO FORM A DENSE MASS OF STONE.
 - 2.4. SLOPE SHALL BE 3:1 MAXIMUM.
 - 2.5. IF BOULDERS ARE NOT PERFECTLY ROUND, THE THICKER END SHALL BE PLACED DOWNSTREAM.
3. COBBLE STONE RIFFLE BERM AND POND BED SHALL BE 6" TO 8" SIZED ROUNDED COBBLE.
4. IMPERMEABLE BARRIER:
 - 5.1. MATERIAL SHALL MEET USCS CLASSIFICATIONS SC, SM, CL, OR ML AND HAVE A MAXIMUM PARTICLE SIZE OF 3" AND A PERMEABILITY LESS THAN 0.000001 CM/S WITH A P.I. GREATER THAN 6, AND MEET THE FOLLOWING GRADATION:

SIEVE SIZE PERCENT FINER BY WEIGHT

3 INCH 100

200 40 TO 100

- 5.2. ALL FILL SHALL BE PLACED IN HORIZONTAL LIFTS AND BE COMPAKTED TO 95% OF ASTM B-557 LIFT THICKNESS SHALL BE NO GRATER THAN 12" PRE-COMPACTED OR LOOSE COMPAKTED.
- 5.3. IMPERMEABLE BARRIER SHALL BE CLEARED OF TREES, BRUSH, TOPSOIL, ETC. PRIOR TO PLACEMENT OF FILL.

STEP POOL STREAM DETAIL

NO SCALE

11	8/15/2018	REV. PER TOWN COMMENTS
10	3/12/2018	REV. PER TOWN COMMENTS
9	11/17/2017	ISSUED FOR PRICING
8	7/26/2017	REV. PER NHDES COMMENTS
7	6/20/2017	REV. PER FEMA RFI
6	6/5/2017	REV. STREAM CROSSINGS
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
MARK	DATE	DESCRIPTION
PROJECT NO:	M-1775-1	
DATE:	11/28/2016	
FILE:	M1775-1-C-701-705.dwg	
DRAWN BY:	NSC	
CHECKED:	JMP	
APPROVED:	BLM	

WEST CHANNEL POLICY BROOK STREAM CROSSING DETAILS SHEET

SCALE: AS SHOWN

