

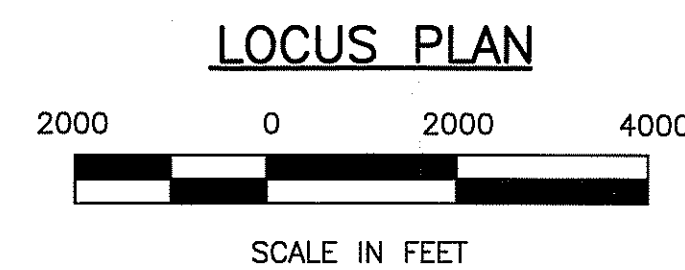
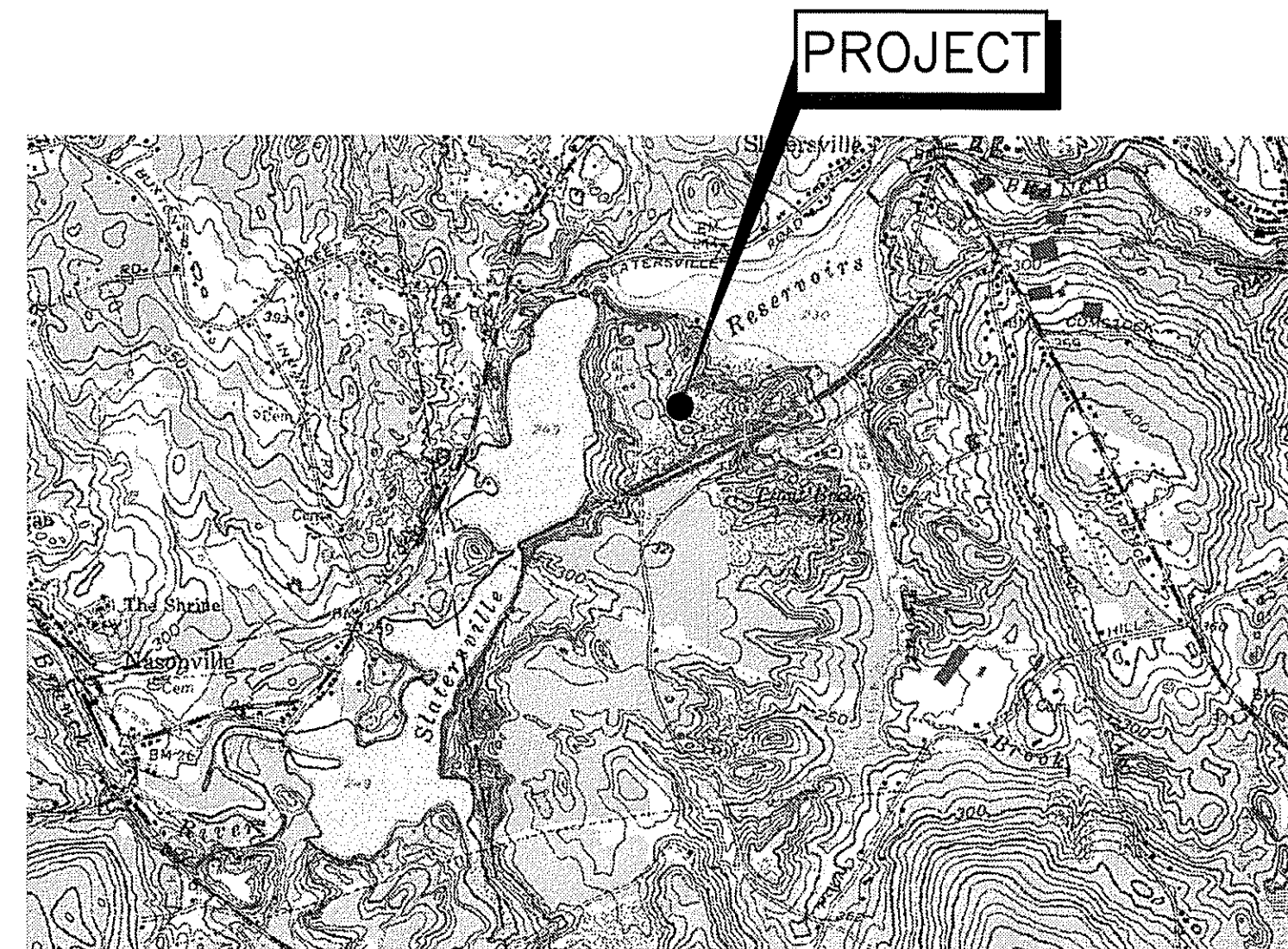
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HOLLISTON SAND COMPANY

SLATERSVILLE

RHODE ISLAND



RIDEM SUBMISSION

APRIL 6, 2007

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED MAY 23 2007 FILE # 07-0164
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Haber

DESIGN DESIGNATION

THE COORDINATE SYSTEM IS BASED ON THE STATE PLANE COORDINATE SYSTEM.
 HORIZONTAL DATUM - NAD 83.

SCALE OF DRAWINGS

PLANS: 1" = 50'
 ALL OTHERS: AS SHOWN

Number of Sheet 1
 Total Sheets 10

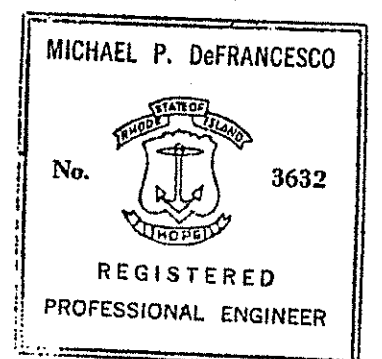
Consulting Engineer:

Michael P.
 DeFrancesco, PE, LLC

Wetland Biologist:
 Natural Resource Services

Surveyor of Record:
 Andrews Surveyors
 and Engineers, Inc

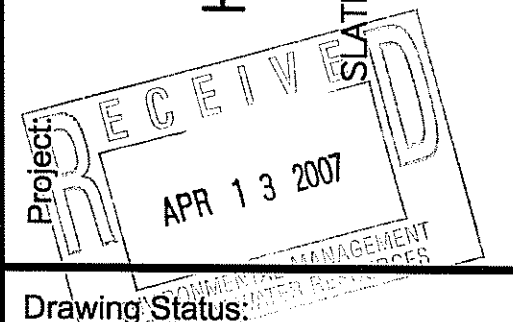
Certification:
Michael P. DeFrancesco



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
 P.O. BOX 1168
 SLATERSVILLE
 RHODE ISLAND



Drawing Status:

RIDEM
 SUBMISSION

Drawing Title:

COVER SHEET

Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: AS NOTED
Checked by: MPD	Project No.:

Drawing No.:

C-0

GENERAL NOTES

- DIMENSIONS, STATIONS, AND ELEVATIONS ARE SHOWN TO THE NEAREST ONE-HUNDREDTH OF A FOOT OR ONE-EIGHTH OF AN INCH.
- ANGLES ARE SHOWN TO THE NEAREST SECOND.
- ALL ITEMS NOT REFERENCED FOR MODIFICATION WILL BE "EXISTING TO REMAIN" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS TO ALL PROPERTIES THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHALL SUBMIT A CONSTRUCTION OPERATIONS PLAN, PER THE SPECIFICATIONS, TO THE ENGINEER OR APPROVAL PRIOR TO STARTING CONSTRUCTION.
- PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AT THOSE AREAS INDICATED ON THE PLANS. CLEARING MAY OCCUR PRIOR TO INSTALLATION OF SUCH CONTROLS, HOWEVER NO GRUBBING, GRADING, FILLING, OR OTHER SOIL DISTURBANCE SHALL OCCUR PRIOR TO INSTALLATION.
- NO UNDISTURBED AREAS SHALL BE CLEARED OF EXISTING VEGETATION AFTER OCTOBER 15 OF ANY CALENDAR YEAR. ALL DISTURBED SOILS EXPOSED PRIOR TO OCTOBER 15 OF ANY CALENDAR YEAR SHALL BE SEEDED OR PROTECTED BY THAT DATE. ANY SUCH AREAS THAT DO NOT HAVE ADEQUATE VEGETATIVE STABILIZATION, AS DETERMINED BY THE RIDOT RESIDENT ENGINEER OR ENVIRONMENTAL INSPECTOR, BY NOVEMBER 15 OF ANY CALENDAR YEAR, MUST BE STABILIZED THROUGH THE USE OF EROSION CONTROL MATTING OR HAY MULCH, IN ACCORDANCE WITH SPECIFICATIONS CONTAINED WITHIN THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION. IF WORK CONTINUES WITHIN ANY OF THESE AREAS DURING THE PERIOD FROM OCTOBER 15 THROUGH APRIL 15, CARE MUST BE TAKEN TO ENSURE THAT ONLY THE AREA REQUIRED FOR THAT DAY'S WORK IS EXPOSED, AND ALL ERODABLE SOIL MUST BE RESTABILIZED WITHIN 5 WORKING DAYS. ANY ADDITIONAL WORK REQUIRED TO CORRECT PROBLEMS RESULTING FROM FAILURE TO COMPLY WITH THIS PROVISION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THERE WILL BE NO SEPARATE PAYMENT FOR THIS PROVISION, IT SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OPERATIONS.

UTILITY NOTES:

- LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD, PRIOR TO CONSTRUCTION. THE COST OF THIS SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE. ANY DAMAGE TO EXISTING UTILITIES SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COST OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR, NO RESPONSIBILITY, COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 24 HOURS IN ADVANCE. "DIG SAFE" POLICY PROCEDURE IS ALSO TO BE FOLLOWED.
- TREE TRIMMING REQUIRED FOR OVERHEAD UTILITIES SHALL BE DONE BY OTHERS.
- TRIMMING, FINE GRADING, FURNISHING, PLACING BACKFILL, AND GRAVEL BORROW SUBBASE FOR TRENCH WORK FOR NEW UTILITY INSTALLATIONS SHALL BE INCLUDED IN THE COST OF THE BID PRICE FOR PIPE.
- ALL TRENCHING REQUIRED FOR NEW UTILITY INSTALLATION WILL HAVE A WIDTH OF 4' PLUS THE INSIDE DIAMETER OF THE PIPE OR 4' PLUS THE WIDTH OF THE CONDUIT.
- NO CONSTRUCTION EQUIPMENT OR PERSONNEL SHALL BE PERMITTED WITHIN A TEN (10) FOOT RADIUS OF ANY ENERGIZED OVERHEAD LINES.
- NO EXCAVATION DEEPER THAN THREE (3) FEET WITHIN A SIX (6) FOOT RADIUS OF UTILITY POLES SHALL BE PERMITTED, IF FOR SOME REASON A POLE NEEDS TO BE TEMPORARILY SUPPORTED BY NARRAGANSETT ELECTRIC COMPANY, THE COSTS INCURRED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE PLUGGED AND CAPPED.
- UTILITY SERVICES SHALL BE MAINTAINED TO ALL EXISTING FACILITIES.

DETENTION BASINS:

- THE DETENTION BASIN(S) SHALL BE INSPECTED THREE (3) MONTHS AFTER COMPLETION OF THE PROJECT TO DETERMINE THE AMOUNT OF SILTATION THAT HAS OCCURRED. THIS INSPECTION WILL BE USED TO DETERMINE IF THE PROPOSED INSPECTION SCHEDULE IS ACCEPTABLE, OR IF MORE FREQUENT CLEANINGS WILL BE REQUIRED. AFTER THE FIRST YEAR OF OPERATION, SEDIMENTS MUST BE REMOVED EVERY SIX MONTHS THEREAFTER. MORE FREQUENT REMOVALS SHALL BE ADOPTED IF SEMI-ANNUAL INSPECTIONS REVEAL THAT SEDIMENT ACCUMULATES FASTER THAN PREVIOUSLY PROJECTED.
- THE OUTLET CONTROL STRUCTURE AND ALL OUTFALL CHANNELS SHALL BE INSPECTED EVERY SIX (6) MONTHS AS WELL ALL EXTENDED DETENTION DEVICES SHALL BE INSPECTED AT LEAST TWICE PER YEAR.
- INSPECTIONS OF THE BASINS SHALL BE ACCOMPLISHED SEVERAL TIMES DURING THE FIRST SIX (6) MONTHS OF OPERATION, ESPECIALLY AFTER RAINFALL EVENTS, TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID OF A RELEASE OF STORMWATER.
- THE OWNER SHALL MONITOR WATER LEVELS IN THE NEW PROPOSED DETENTION BASIN AT VARIOUS TIME INTERVALS AFTER A RAINFALL EVENT TO DETERMINE THE DRAWDOWN ABILITY AND PERFORMANCE OF THE EXTENDED DETENTION OUTFLOW DEVICE. IF WATER IS FOUND TO BE STANDING IN THE BASIN MORE THAN THREE (3) DAYS AFTER A STORM EVENT, THEN FAILURE OF THE SYSTEM HAS OCCURRED AND SHALL BE ADDRESSED THROUGH REPAIR OR REPLACEMENT.
- GRASSED AREAS OF THE BASIN SHALL BE INSPECTED AT LEAST TWICE PER YEAR TO CHECK FOR EROSION PROBLEMS. PROBLEM AREAS SHALL BE RE-SEEDING IMMEDIATELY IN ORDER TO STABILIZE SOILS.
- SIDESLOPES AND EMBANKMENTS OF THE DETENTION BASIN SHALL BE MOWED AT LEAST ONCE DURING THE GROWING SEASON (PREFERABLY AFTER AUGUST 15TH) TO PREVENT WOODY GROWTH.
- ALL TRASH AND LITTER SHALL BE REMOVED FROM THE BASIN DURING MOWING OPERATIONS.

GRASSES SWALES:

- SWALES SHALL BE INSPECTED ON A SEMI-ANNUAL BASIS. ALL TRASH AND OTHER LITTER MUST BE REMOVED DURING INSPECTIONS.
- VEGETATION OF SWALES SHALL BE ALLOWED TO GROW NATURALLY. WHEN CUT THE VEGETATION SHALL NOT BE CUT LOWER THAN FOUR (4) INCHES.
- BARE SPOTS AND ERODED SPOTS WITHIN THE SWALE SHALL BE RE-SEEDING IMMEDIATELY FOLLOWING OBSERVATION.
- SEDIMENTS SHALL BE REMOVED AT LEAST ONCE PER YEAR, OR MORE FREQUENTLY IF SEDIMENTS OVERTOP CHECK DAMS. ACCUMULATED SEDIMENTS MUST BE REMOVED MANUALLY TO PREVENT DAMAGE TO THE SWALE. RE-SEEDING MAY BE NECESSARY AFTER SEDIMENT REMOVAL OPERATIONS.

CATCH BASINS, INLETS, OUTLETS, RIPRAP AREAS, ETC.:

- THE DRAINAGE SYSTEM SHOWN ON THESE PLANS SHALL BE SUBJECT TO ANNUAL INSPECTIONS IN ITS ENTIRETY, AND ALL NECESSARY REPAIRS SHALL BE CONDUCTED IMMEDIATELY.
- ALL CATCH BASINS SHALL BE INSPECTED ON A SEMI-ANNUAL BASIS, AT MINIMUM, AND ALL SEDIMENT AND DEBRIS SHALL BE REMOVED AND DISPOSED. ANY STRUCTURAL PROBLEMS SHALL BE CORRECTED IMMEDIATELY.
- ALL RIPRAP AREAS, AND OTHER OUTFALLS SHALL BE INSPECTED ANNUALLY, AND ALL SEDIMENT AND TRASH SHALL BE REMOVED AND DISPOSED.
- REPAIRS AND/OR REPLACEMENT OF INLET/OUTLET STRUCTURES, RIPRAP CHANNELS, ETC. SHALL BE DONE WITHIN THIRTY (30) DAYS OF DEFICIENCY REPORTS.

MINIMIZATION OF STORMWATER CONTAMINATION:

- FERTILIZERS WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER.
- FERTILIZERS WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER.
- FERTILIZERS WILL BE STORED IN A COVERED SHED AND PARTIALLY USED BAGS WILL BE TRANSFERRED TO AVOID SPILLS.
- ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
- PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED.
- ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- SANITARY WASTER WILL BE COLLECTED FROM PORTABLE UNITS A MINIMUM OF TWO TIMES A WEEK TO AVOID OVERFILLING.
- A COVERED DUMPSTER WILL BE USED FOR ALL WASTE MATERIALS.
- ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SYSTEM, BUT WILL BE PROPERLY DISPOSED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE TEMPORARY MATERIAL STORAGE TRAILER ONSITE. EQUIPMENT WILL INCLUDE, BUT NOT BE LIMITED TO, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, SAND, SAW DUST, AND PLASTIC AND METAL TRASH CONTAINERS.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPILLS LARGE ENOUGH TO REACH THE STORM SYSTEM WILL BE REPORTED TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.
- CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.
- A STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED TO REDUCE VEHICLE TRACKING OF SEDIMENTS.
- THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEEP DAILY TO REMOVE EXCESS MUD, DIRT, OR ROCK TRACKED FROM THE SITE.
- DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPULIN.
- ALL RUTS CAUSED BY EQUIPMENT USED FOR CUTTING AND REMOVING OF TREES WILL BE GRADED.

COORDINATION OF BMPS WITH CONSTRUCTION ACTIVITIES:

- THE TEMPORARY PERIMETER CONTROLS (SILT FENCES AND STRAW BALES) WILL BE INSTALLED BEFORE ANY CLEARING AND GRADING BEGINS.
- CLEARING AND GRADING WILL NOT OCCUR IN AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
- THE STABILIZED CONSTRUCTION SITE ENTRANCE AND SEDIMENTATION BASIN WILL BE CONSTRUCTED BEFORE CLEARING AND GRADING BEGINS.
- ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED WITH PERMANENT SEED AND MULCH.
- THE TEMPORARY PERIMETER CONTROLS (SILT FENCING AND STRAW BALES) WILL NOT BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITIES AT THE SITE ARE COMPLETE AND SILTS HAVE BEEN STABILIZED.

MAINTENANCE/INSPECTION PROCEDURES:

- BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCING WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
- SILT FENCES WILL BE INSPECTED FOR DEPTH OF SEDIMENT, FOR TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
- THE SEDIMENTATION FORBAY WILL BE INSPECTED FOR DEPTH OF SEDIMENT AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES A MAXIMUM OF 1 FOOT IN DEPTH.
- TEMPORARY AND PERMANENT SEEDING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
- IT IS THE OWNERS RESPONSIBILITY TO MAINTAIN ALL PERMIT AND APPROVAL RECORDS FOR 5 YEARS.
- THE STABILIZED CONSTRUCTION ENTRANCE WILL BE INSPECTED FOR SEDIMENT TRACKED ON THE ROAD, FOR CLEAN GRAVEL, AND TO MAKE SURE THAT THE CULVERT BENEATH THE ENTRANCE IS WORKING AND THAT ALL TRAFFIC USE THE STABILIZED ENTRANCE WHEN LEAVING THE SITE.

DRAINAGE AND EROSION CONTROL NOTES:

- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT FOR ACCEPTANCE A GENERAL WORK SCHEDULE AND PLAN WHICH INDICATES PLANNED IMPLEMENTATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES, INCLUDING SHUTDOWN PROCEDURES FOR WINTER AND OTHER WORK INTERRUPTIONS. THIS PLAN SHALL INCLUDE PROPOSED METHODS OF CONTROL ON HAUL ROADS AND BORROW PITS AND A PLAN FOR DISPOSAL OF WASTE MATERIALS.
- DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR A TIME GREATER THAN 20 DAYS.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15 SHALL BE SEEDED OR PROTECTED BY THAT DATE FOR ANY WORK COMPLETED DURING EACH CONSTRUCTION YEAR.
- THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND STANDARD SPECIFICATION M.18.
- THE SEED MIX SHALL BE INNOCULATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING, WITHIN APPROPRIATE INOCULUM FOR EACH VARIETY.
- TEMPORARY TREATMENTS SHALL CONSIST OF HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
- HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.
- ALL HAY BALES, SILT FENCE, OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED IF NEEDED TEMPORARY SEEDING CAN HELP TO MINIMIZE EROSION. THE FOLLOWING SPECIES ARE RECOMMENDED.

SPECIES	LBS./AC.	LBS./1000 SQ. FT.	SEEDING DATES
ANNUAL RYE GRASS	1.0-1.5	40-80	3/1-6/1
PERENNIAL RYE GRASS	1.0-1.5	40-80	3/1-6/1
SUDAN GRASS	0.7-1.0	30-40	5/15-8/15
MILLET	0.7-1.0	30-40	5/15-8/15
WINTER RYE	3.0-120	120	4/15-6/15
OATS	0.5-5.0	86-120	3/1-6/15
WEEP COVER GRASS	0.5-5.0	5-20	5/1-7/1

- THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AT NO ADDITIONAL COST.
- THE NORMAL ACCEPTABLE SEASONAL SEEDING DATES ARE APRIL 1st - OCTOBER 15th.
- STABILIZATION OF ONE FORM OR ANOTHER AS DESCRIBED ABOVE SHALL BE ACHIEVED WITHIN 15 DAYS OF FINAL GRADING.
- SLOPE SURFACES 3:1 OR STEEPER WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE COVERED WITH JUTE MESH OR EXCELSIOR MATTING TO AID IN STABILIZING THE SLOPES AND PREVENTING EROSION.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL, THROUGHOUT THE WORK AREA.
- SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AS DESCRIBED IN THE STANDARD SPECIFICATION.
- APPROXIMATE SPACING LOCATIONS OF RHODE ISLAND STANDARD 9.4.0 "BALED HAY DITCH AND EROSION CHECK" ARE SHOWN ON THE PLANS.
- EXISTING TOPSOIL SHALL BE REMOVED AND STOCKPILED IN AREAS APPROVED BY HE ENGINEER. EROSION CONTROL MEASURES (HAY BALES) ARE TO BE PLACED AT THE TOE OF SLOPE IN STOCKPILE AREA TO PREVENT EROSION. THIS MATERIAL SHALL BE REUSED ON SITE. HAY BALES ARE TO SURROUND THE STAGING AREA AND REMOVED AT THE DIRECTION OF THE ENGINEER. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED WITHIN REGULATED WETLANDS OR BUFFERS ZONE AREAS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 30%.
- EXCELSIOR MATTING SHALL BE USED TO STABILIZE PLANTABLE SOIL IN ALL DITCHES AND ON ALL SLOPES WITHIN AND ADJACENT TO WETLANDS PERIMETERS AND ON ALL SLOPES WITHIN WATER QUALITY AREAS.
- SEEDING ON ALL SLOPES 3 TO 1 OR STEEPER (EXCEPT THOSE SLOPES REFERENCED IN NOTE NO. 17) SHALL CONSIST OF THE FOLLOWING APPLICATION:
 - SEEDING TYPE I
 - ADHESIVE MULCH STABILIZER
- VEGETATIVE CLEARING MAY TAKE PLACE BEFORE EROSION CONTROLS ARE INSTALLED BUT GRUBBING MUST BE COINCIDENT WITH OR AFTER THE INSTALLATION OF EROSION CONTROLS. ALL EROSION CONTROLS MUST BE INSTALLED AS SHOWN ON THE PLANS PRIOR TO ANY GRADING WORK. THE LIMITS OF CLEARING AND SURFACE DISTURBANCE SHOWN ON THE PLANS MUST BE STRICTLY ADHERED TO IN ALL AREAS. CLEARING SHALL ONLY TAKE PLACE BEFORE THE INSTALLATION OF EROSION CONTROLS. GRUBBING MAY NOT BE DONE BEFORE EROSION CONTROLS ARE INSTALLED. HOWEVER, GRUBBING MAY BE DONE COINCIDENT WITH OR FOLLOWING THE COMPLETION OF THE EROSION CONTROL INSTALLATION.
- STORM WATER DRAINAGE FACILITIES SHALL BE MAINTAINED PER MAINTENANCE AGREEMENT. CATCH BASINS, PIPING SYSTEMS, AND DISCHARGE STRUCTURES SHALL BE PERIODICALLY INSPECTED FOR INTEGRITY AND STABILITY.
- ALL DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP), AASHTO M170 CLASS III, (UNLESS OTHERWISE NOTED) WITH MORTAR JOINTS UNLESS OTHERWISE NOTED ON THE PLANS. ALL RCP PIPE JOINTS AND CONNECTIONS TO MANHOLE STRUCTURES SHALL HAVE "O" RING GASKETS, AND THE JOINTS ON THE OUTSIDE OF THE PIPE SHALL BE MORTARED.
- THE CONTRACTOR SHALL INSTALL EROSION CONTROL DEVICES PRIOR TO CLEANING AND FLUSHING STORM WATER DRAINAGE. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL SEDIMENT IS REMOVED AT DRAINAGE OUTFALL.
- CATCH BASIN RIM GRADE NOTED ON PLANS ARE DEPRESSED 0.1 FT. LOWER THAN GUTTER GRADE.
- RHODE ISLAND STANDARD 9.8.0 "BALED HAY EROSION CHECKS" SHALL BE INSTALLED AT ALL CATCH BASINS AND INLETS WHENEVER SUBBASE IS EXPOSED, AND SHALL REMAIN IN PLACE UNTIL THE ABUTTING GROUND SURFACES ARE STABILIZED.
- PROVISIONS FOR CLEARING TO ACCESS OUTFALLS DURING THE CLEANING AND FLUSHING OF THE CLOSED DRAINAGE SYSTEM SHALL BE KEPT TO A MINIMUM.
 - ANY VEGETATIVE CLEARING SHALL BE LIMITED TO BRUSH AND TREES LESS THAN 3" IN DIAMETER.
 - NO HEAVY EQUIPMENT IS TO ENCOACH WITHIN BIOLOGICAL WETLANDS.
- ALL ACCUMULATED SEDIMENT THAT RESULTS FROM THE CLEANING AND FLUSHING OF PIPE OPERATIONS MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY.
- PRIOR TO DRAINAGE AND UTILITY CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING PIPES AND/OR STRUCTURES WHICH ARE TO BE CONNECTED. ANY VARIATION FOUND FROM THE PLANS MUST BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO THE DRAINAGE AND UTILITY CONSTRUCTION. WORK CAN COMMENCE ONLY UPON ENGINEER'S AUTHORIZATION.
- UNLESS OTHERWISE NOTED, CATCH BASIN AND GUTTER INLET FRAMES AND GRATES ARE 4-FLANGE.
- WHERE BALED HAY EROSION CHECKS AND SILT FENCES ARE USED AT CATCH BASINS, THEY SHALL BE REMOVED AT THE END OF THE PROJECT OR AS DIRECTED BY THE ENGINEER IN ORDER TO PREVENT CLOGGING OF THE INLET.
- WATER QUALITY BASINS SHALL BE ROUGH GRADED FOR USE AS TEMPORARY SEDIMENTATION BASINS DURING PROJECT CONSTRUCTION. FINAL BASIN CONSTRUCTION SHALL NOT COMMENCE UNTIL ALL SOURCES OF SEDIMENT HAVE BEEN ELIMINATED. FINAL ROADSIDE VEGETATION IS ESTABLISHED AND USE OF TEMPORARY BASINS IS NO LONGER REQUIRED AS DIRECTED BY THE ENGINEER.
- ALL EMBANKMENTS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING TWELVE (12) INCHES (AFTER COMPACTION) AND SHALL BE COMPACTED AS SPECIFIED BEFORE THE NEXT LAYER IS PLACED. ALSO, EMBANKMENT CONSTRUCTION SHALL CONFORM TO SECTION 202.03.4 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1997 EDITION.
- EXCAVATION OF THE STORMWATER DETENTION POND WILL COMMENCE PRIOR TO THE INSTALLATION OF THE ON-SITE DRAINAGE SYSTEM. CONSTRUCTION OF THE ON-SITE DRAINAGE WILL COMMENCE UPON INSTALLATION OF THE FLOW CONTROL STRUCTURE.

Consulting Engineer:

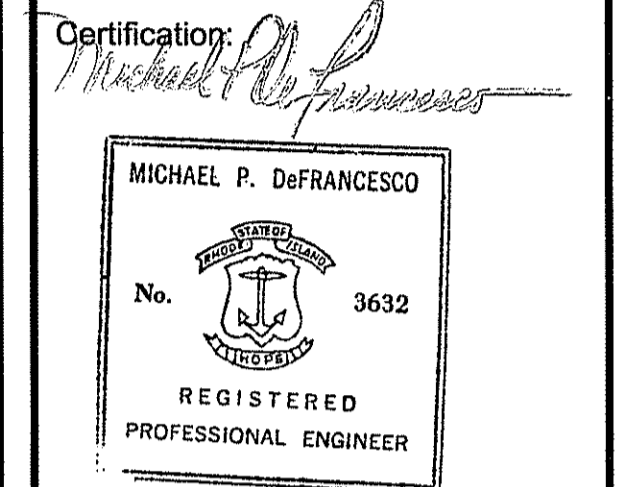
Michael P. DeFrancesco, PE, LLC

Wetland Biologist:

Natural Resource Services

Surveyor of Record:

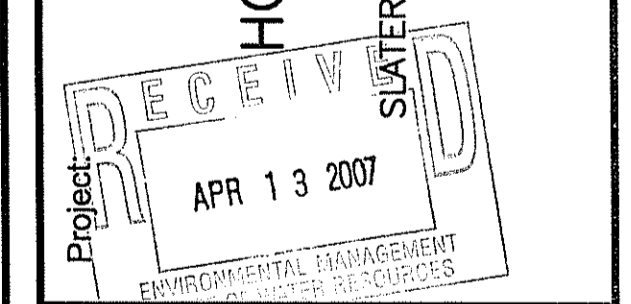
Andrews Surveyors and Engineers, Inc



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
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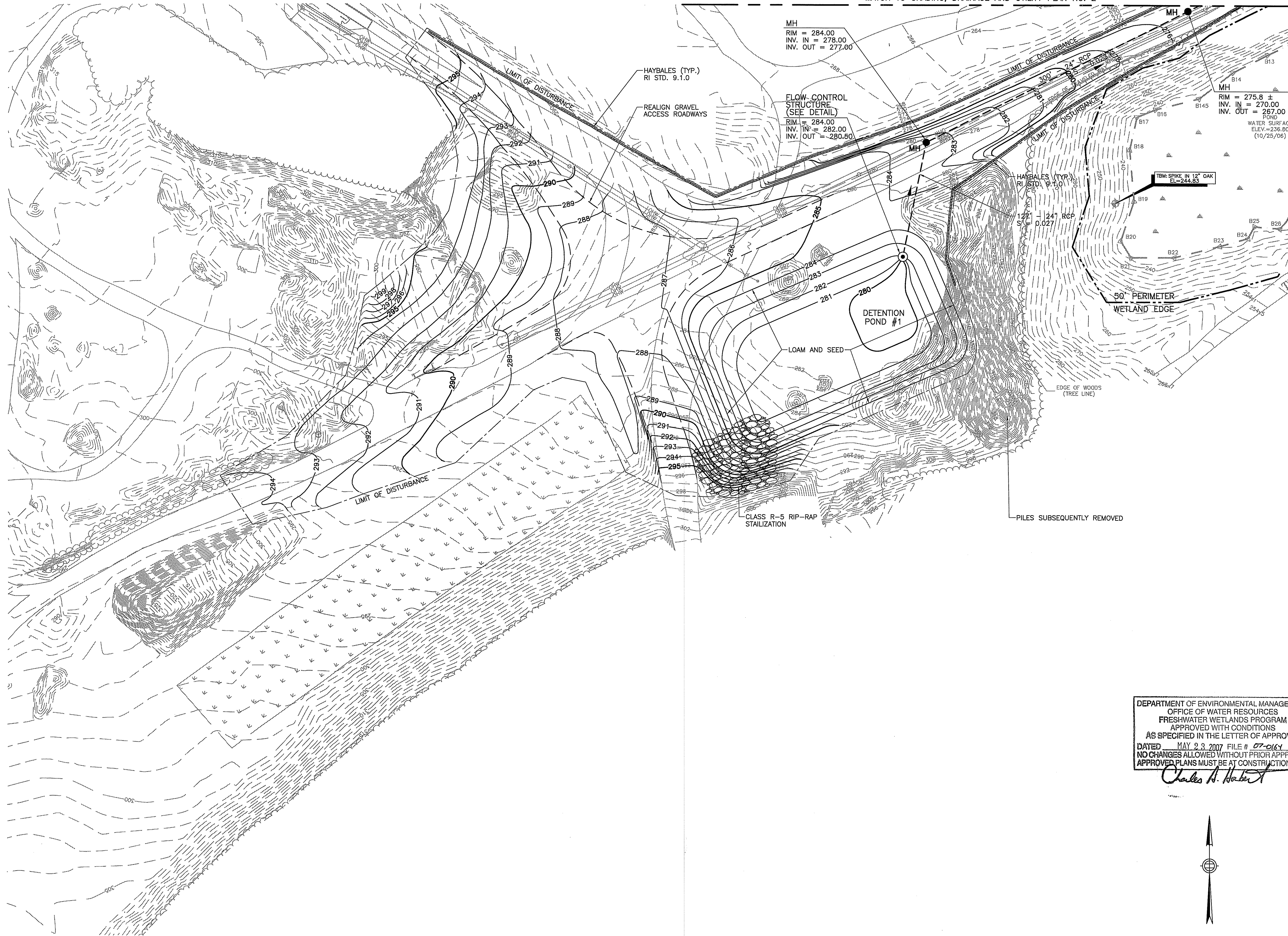


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 Charles A. Harte

GENERAL NOTES

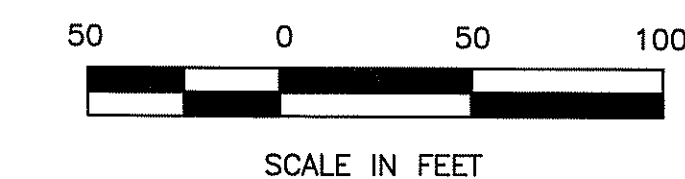
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Checked by: MPD	Project No.:
Drawing No.:	



GRADING, DRAINAGE AND UTILITY PLAN NO. 1

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
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Charles A. Herbert



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Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

Surveyor of Record:
Andrews Surveyors and Engineers, Inc

Certification:

Michael P. DeFrancesco

MICHAEL P. DeFRANCESCO

No. 3632

REGISTERED PROFESSIONAL ENGINEER

Revisions:

No.	Description	Date

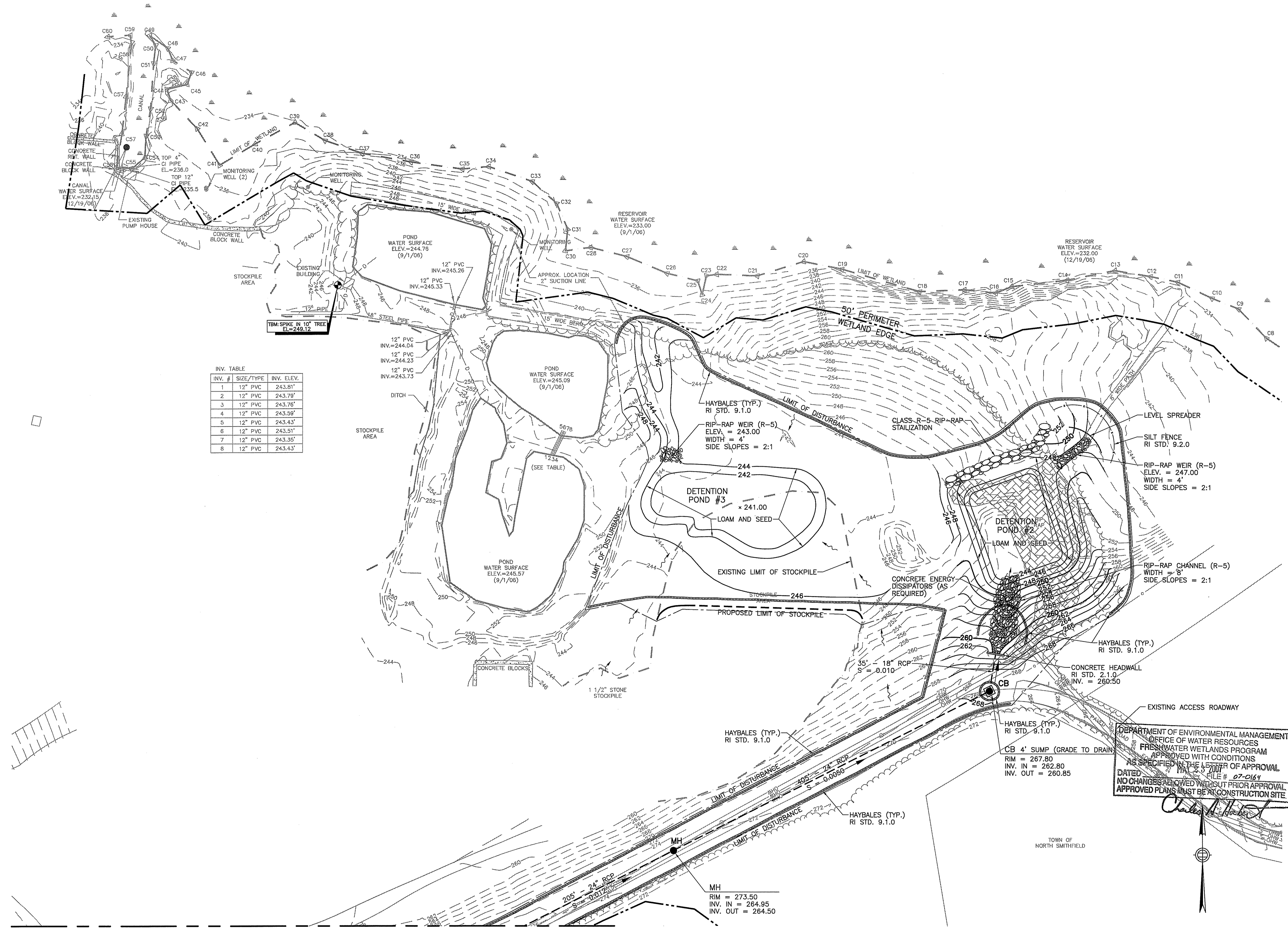
HOLLISTON SAND COMPANY
P.O. BOX 1168
RHODE ISLAND
SLATERSVILLE



Drawing Status:
RIDEM SUBMISSION

Drawing Title:
GRADING, DRAINAGE AND UTILITY PLAN NO. 1

Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: 1" = 50'
Checked by: MPD	Project No.:
Drawing No.:	

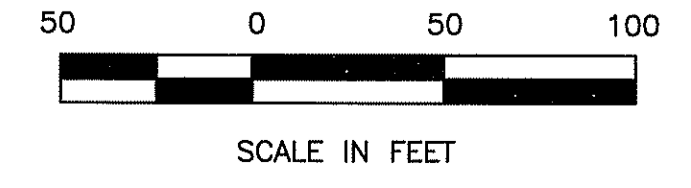


INV. TABLE

INV. #	SIZE/TYPE	INV. ELEV.
1	12" PVC	243.81'
2	12" PVC	243.79'
3	12" PVC	243.76'
4	12" PVC	243.59'
5	12" PVC	243.43'
6	12" PVC	243.31'
7	12" PVC	243.35'
8	12" PVC	243.43'

MATCH TO GRADING, DRAINAGE AND UTILITY PLAN NO. 1

GRADING, DRAINAGE AND UTILITY PLAN NO. 2



Consulting Engineer:
Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

Surveyor of Record:
Andrews Surveyors and Engineers, Inc

Certification:
Michael P. DeFrancesco
MICHAEL P. DeFRANCESCO
No. 3632
REGISTERED PROFESSIONAL ENGINEER

Revisions:

No.	Description	Date

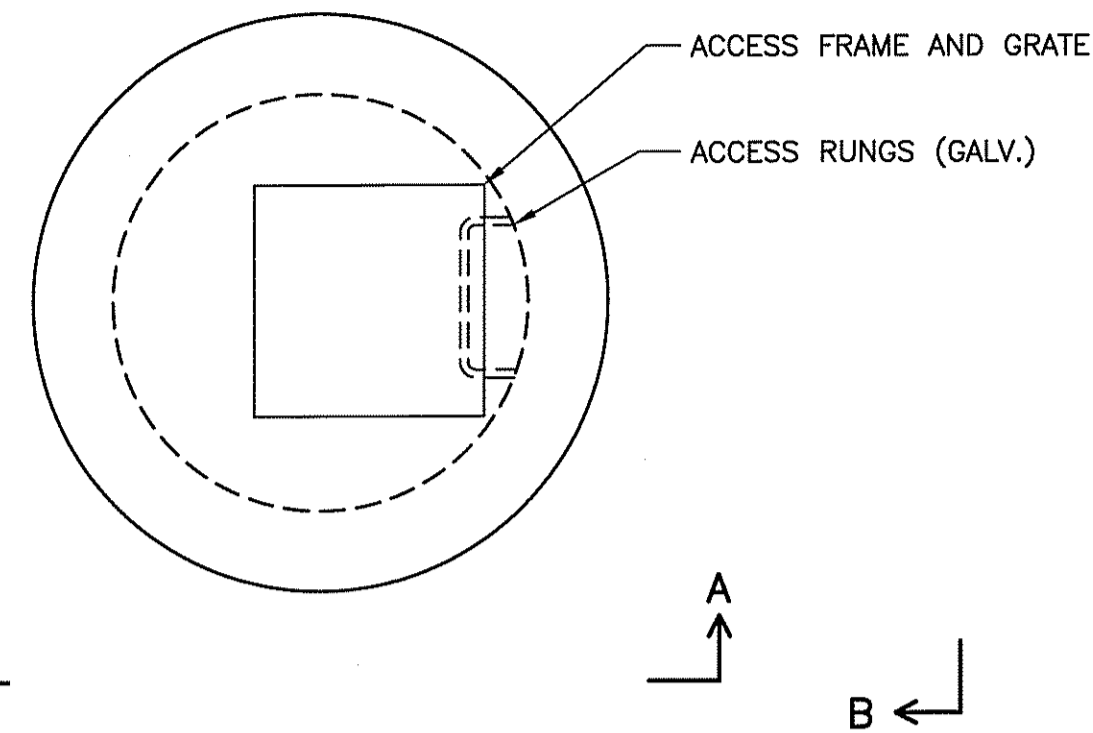
HOLLISTON SAND COMPANY
P.O. BOX 1168
SLATERSVILLE, RHODE ISLAND

RECEIVED
APR 13 2007

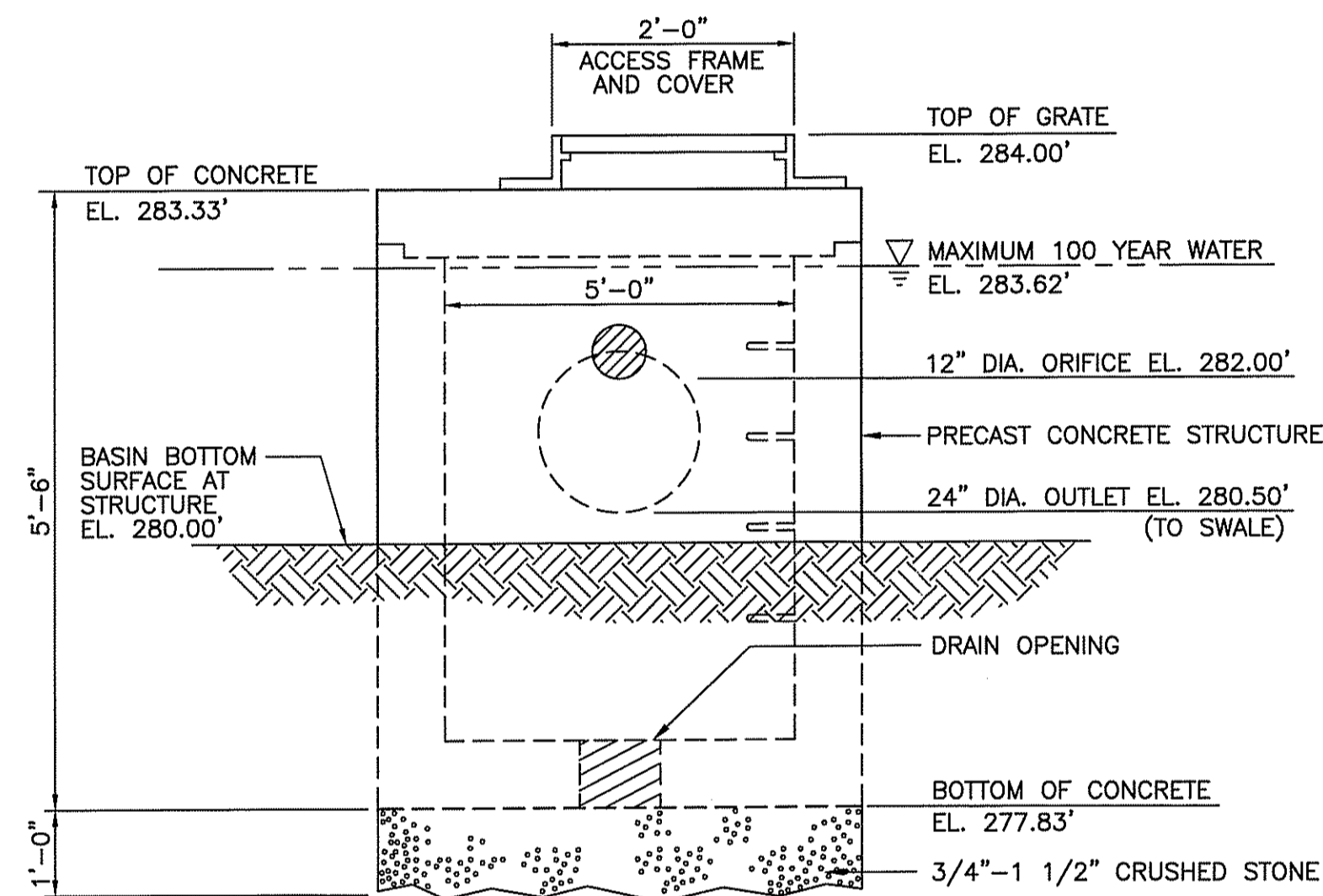
Drawing Status:
RIDEM SUBMISSION

Drawing Title:
GRADING, DRAINAGE AND UTILITY PLAN NO. 2

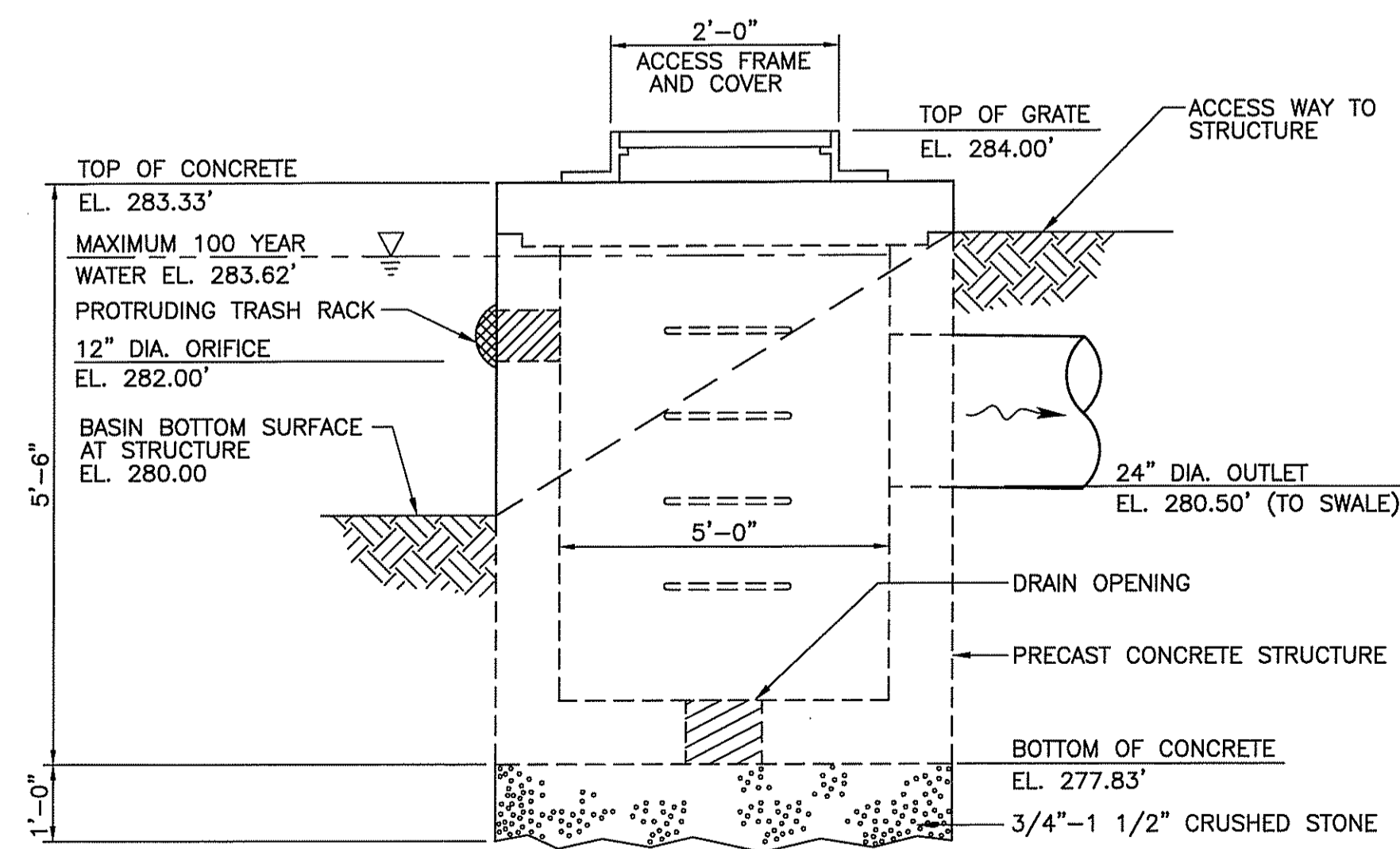
Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: 1" = 50'
Checked by: MPD	Project No.:
Drawing No.:	



PLAN VIEW

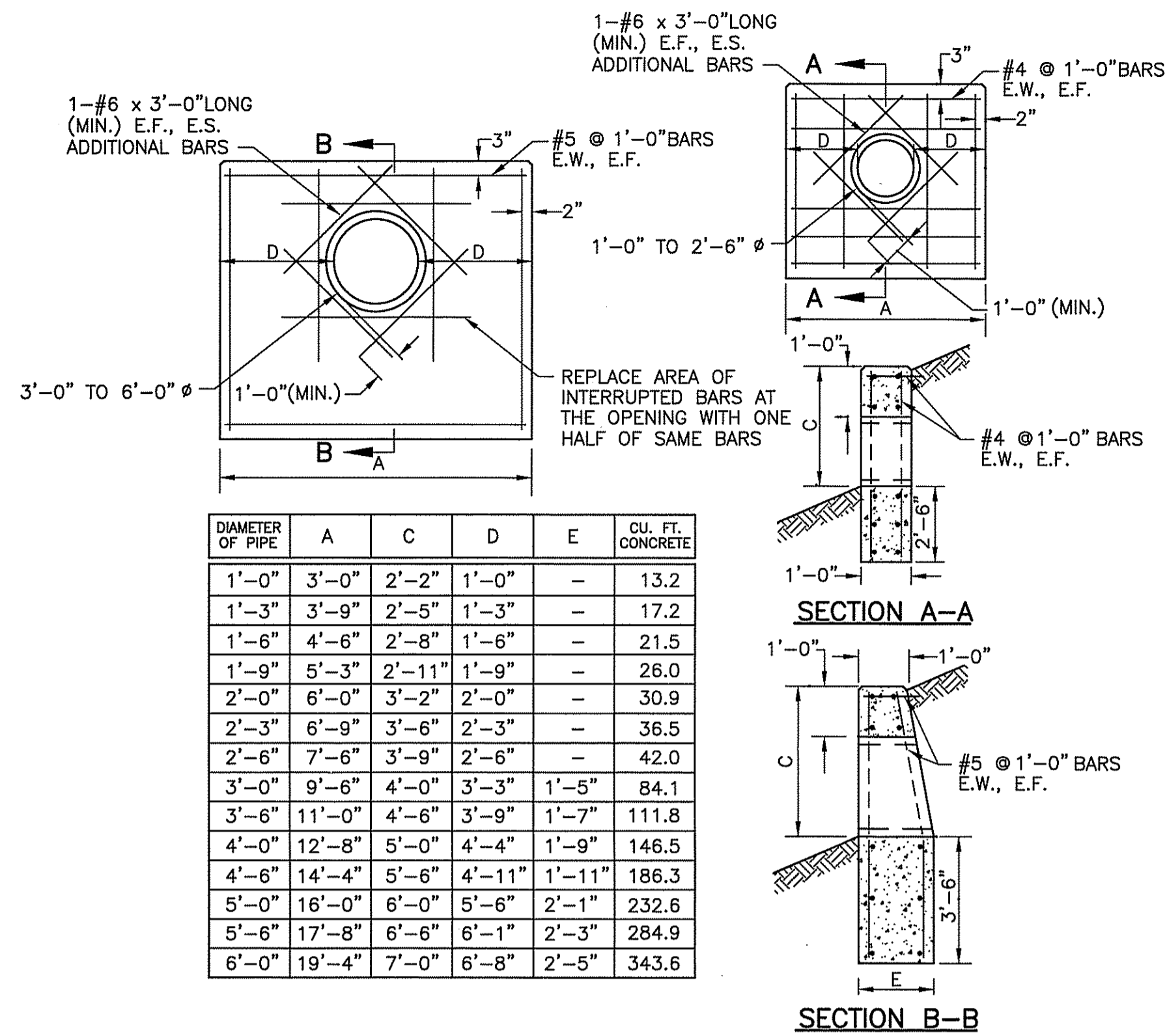


SECTION VIEW A-A



SECTION VIEW B-B

PRECAST CONCRETE 3-STAGE FLOW CONTROL STRUCTURE
NOT TO SCALE

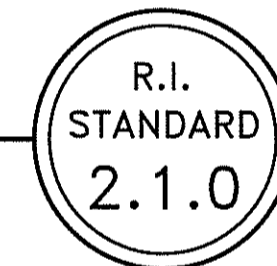


NOTES:

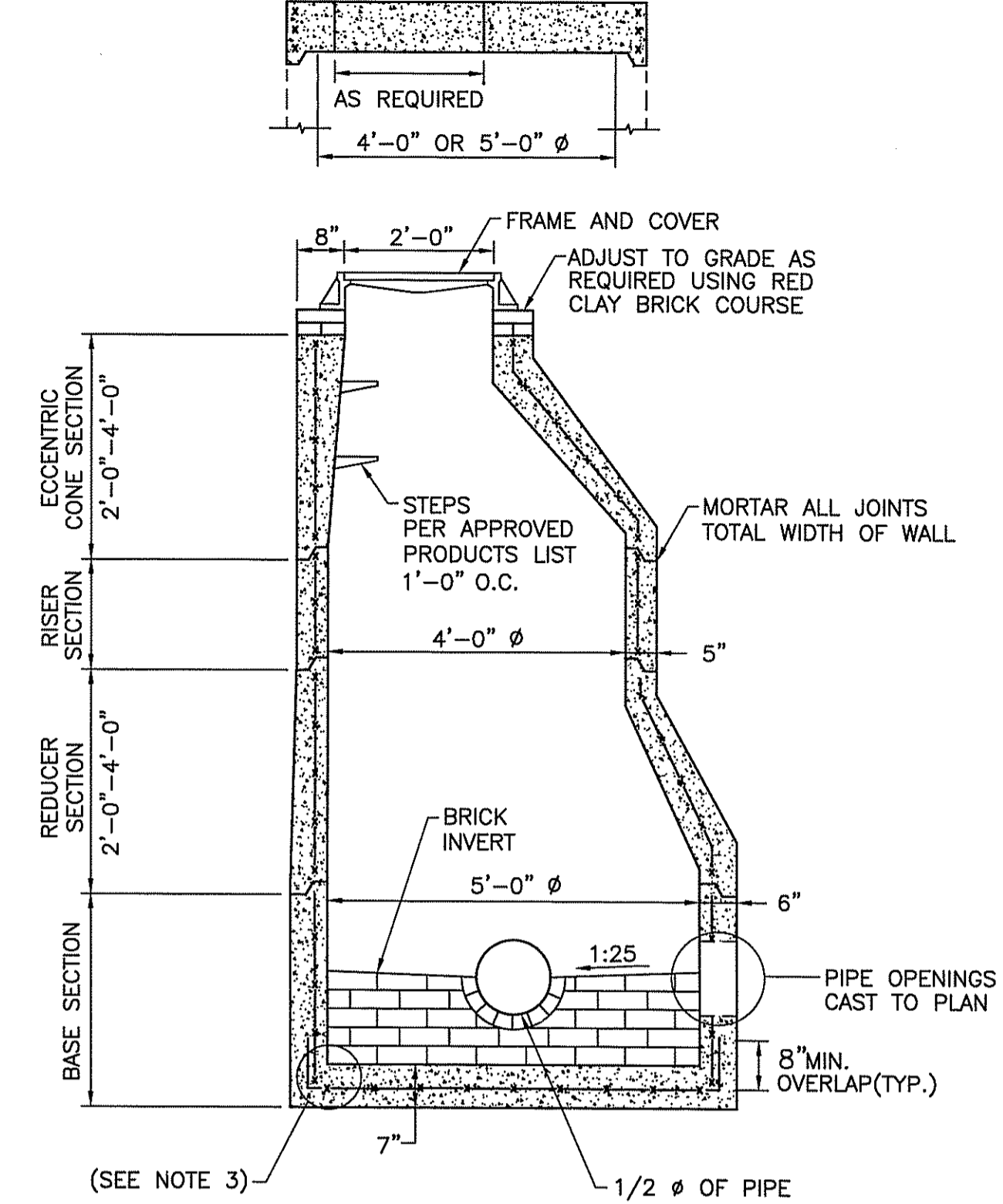
1. SHALL BE IN ACCORDANCE WITH SECTION 709 OF THE R.I. STANDARD SPECIFICATIONS.
2. 3/4" CHAMFER ON ALL EXPOSED EDGES.
3. 1'-0" COMPACTED GRAVEL UNDER HEADWALL.
4. ALL REINFORCING BARS SHALL BE EPOXY COATED.

CONCRETE HEADWALL FOR PIPE CULVERTS

NOT TO SCALE



ALTERNATE TOP LOADING (SEE NOTES 7 AND 8)

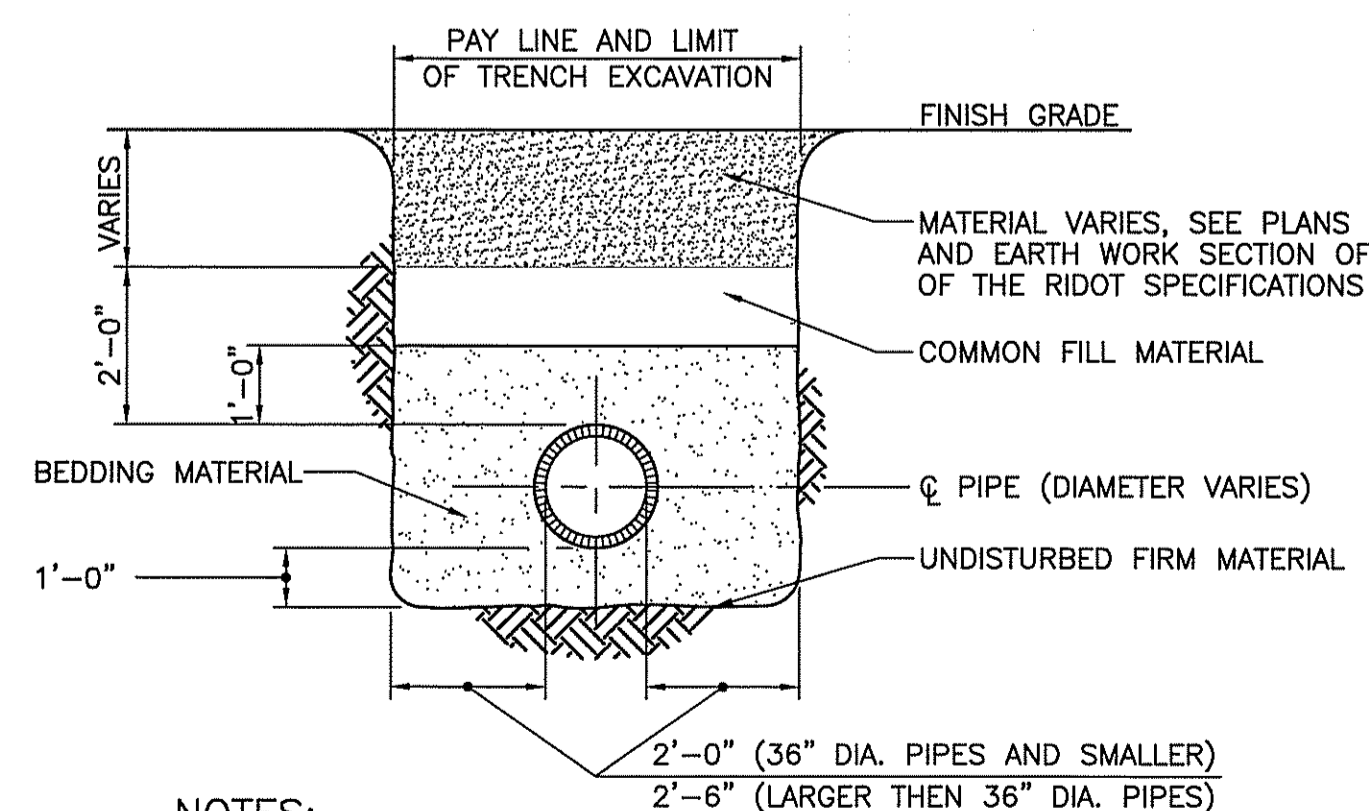
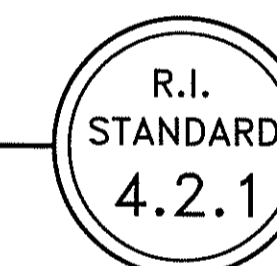


NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.15 SQ. IN./LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.0).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST 5'-0" ROUND MANHOLE

NOT TO SCALE



NOTES:

1. FINISH GRADE MATERIAL VARIES, SEE GENERAL PLANS.
2. RESTORE FINISH GRADE TO MATCH EXISTING.

TYPICAL TRENCH DETAIL

NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 4/13/2007 FILE # 07-0161
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

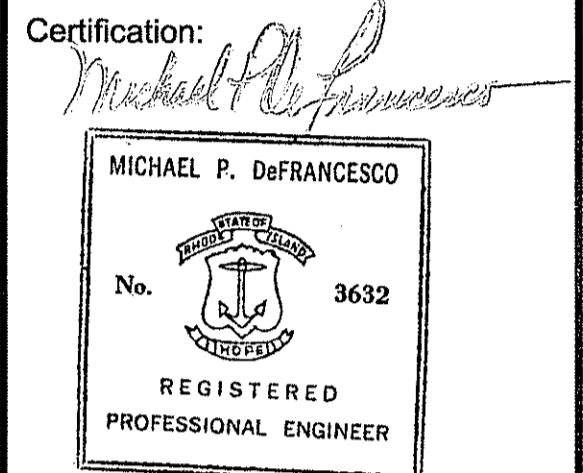
Charles A. Haber

Consulting Engineer:

Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

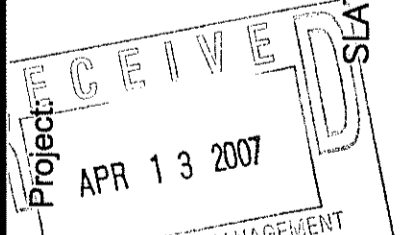
Surveyor of Record:
Andrews Surveyors and Engineers, Inc



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
P.O. BOX 1168
SLATERSVILLE
RHODE ISLAND



Drawing Status:

RIDEM
SUBMISSION

Drawing Title:

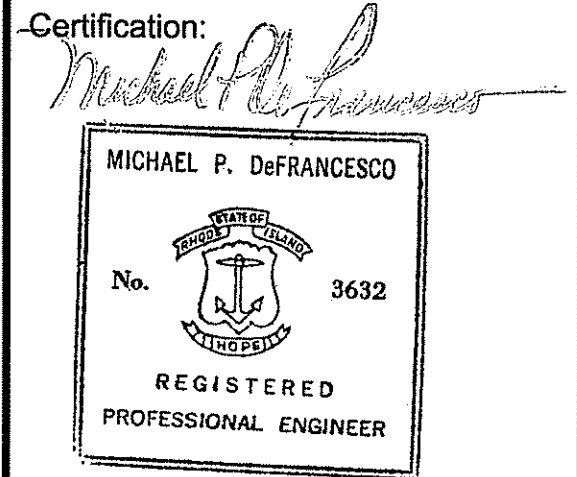
DRAINAGE DETAILS
(SHEET 1 OF 3)

Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: AS NOTED
Checked by: MPD	Project No.:
Drawing No.:	

Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

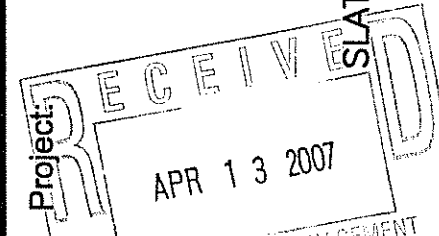
Surveyor of Record:
Andrews Surveyors and Engineers, Inc



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
P.O. BOX 1168
RHODE ISLAND
SLATERSVILLE



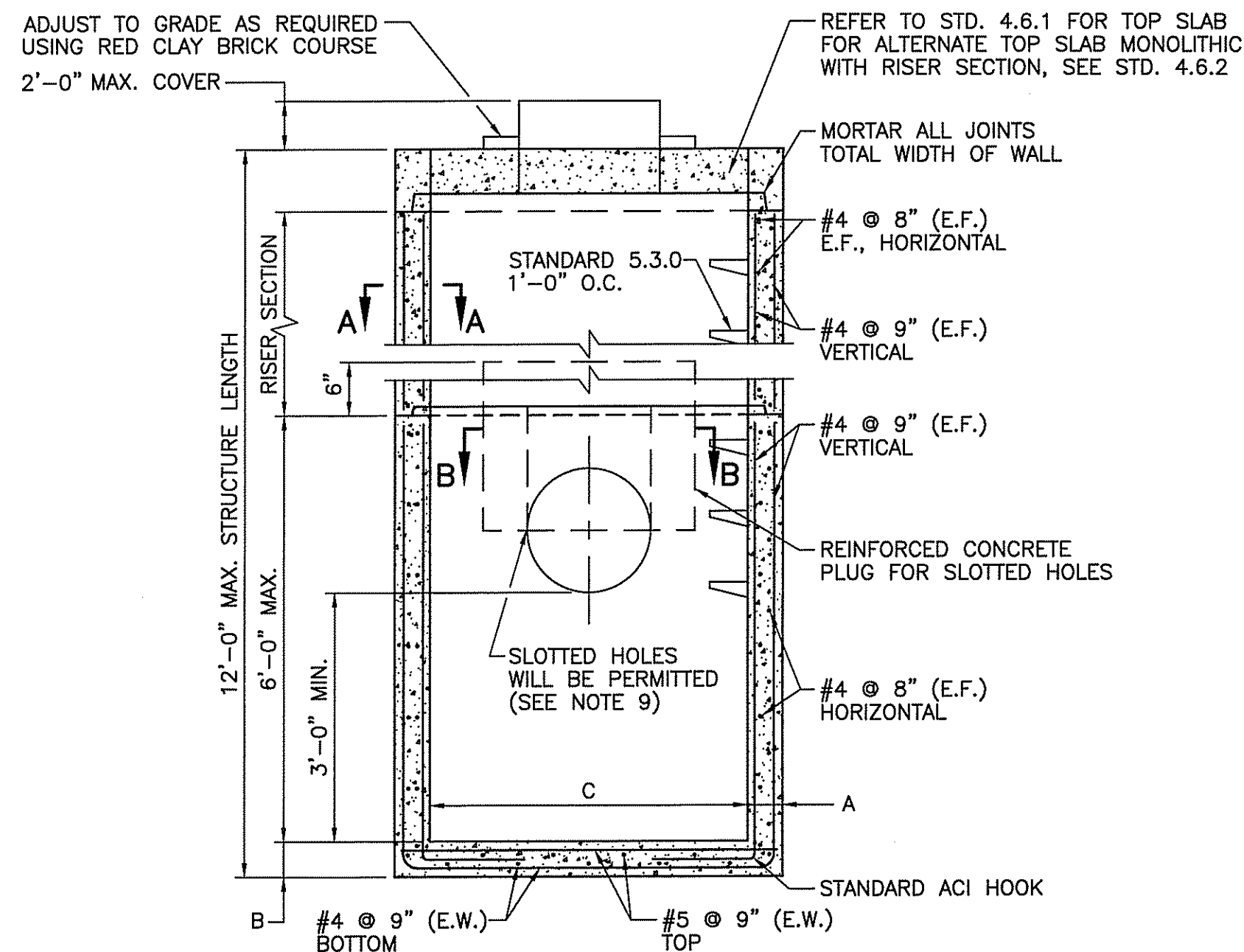
Drawing Status:

RIDEM
SUBMISSION

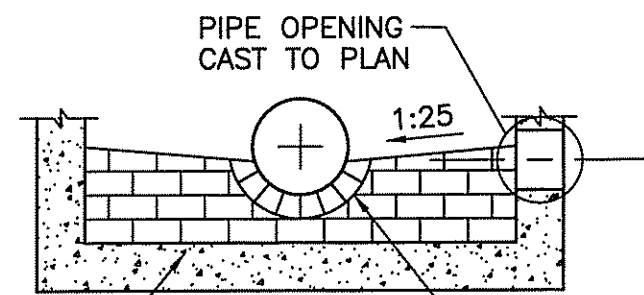
Drawing Title:

DRAINAGE DETAILS
(SHEET 2 OF 3)

Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: AS NOTED
Checked by: MPD	Project No.:
Drawing No.:	

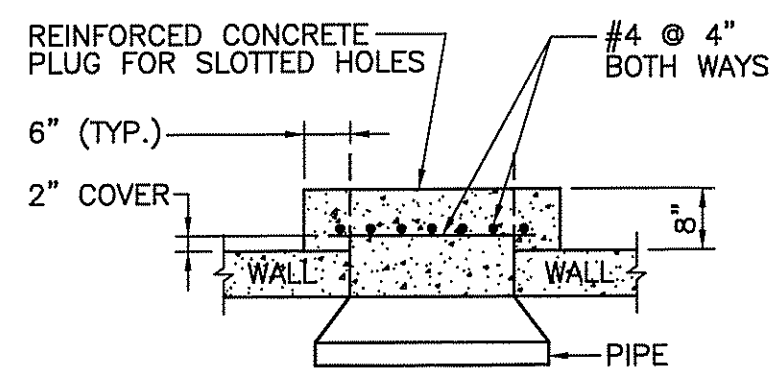


CATCH BASIN

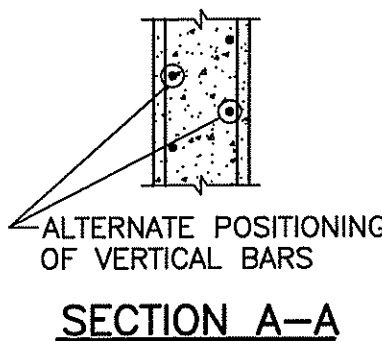


FOR REINFORCING STEEL SEE CATCH BASIN

MANHOLE



SECTION B-B



SECTION A-A

NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
- ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
- THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
- TOP SLAB, RISER AND BASE SECTIONS HAVE BEEN REINFORCED TO MEET OR EXCEED H-25 OR HS-25 LOADINGS WITH EARTH PRESSURES INCLUDED. THIS IMPLIES THAT THE TOP SLAB, RISER AND BASE SECTIONS ARE DESIGNED FOR AXLE LOAD OF NO GREATER THAN 20 TONS.
- THERE IS TO BE 2" MINIMUM COVER ON ALL REBAR.
- ALL REBARS ARE TO HAVE MINIMUM 2" CLEARANCE FROM OPENING.
- STEPS SHALL CONFORM TO STANDARD 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
- THE SPLICE LENGTHS ON TIES ARE TO BE A MINIMUM OF 1'-7".
- WHERE THE CLEARANCE FROM THE TOP OF THE PIPE TO THE RIM IS "B" OR LESS, PLUGS SHALL BE USED IN CONJUNCTION WITH SLOTTED HOLES. NO SLOTTED HOLE WILL BE PERMITTED WHERE THE CLEARANCE IS GREATER THAN 6". IN CASES WHERE SLOTTED HOLES ARE NOT USED AND THE WALL OPENING COMES WITHIN 1'-3" OF THE RIM, AN ADDITIONAL #8 BAR SHALL BE USED ABOVE THE OPENING THE WIDTH "C" OF THE WALL.

PRECAST 4'-0" OR 6'-0" SQUARE MANHOLE OR CATCH BASIN

NOT TO SCALE

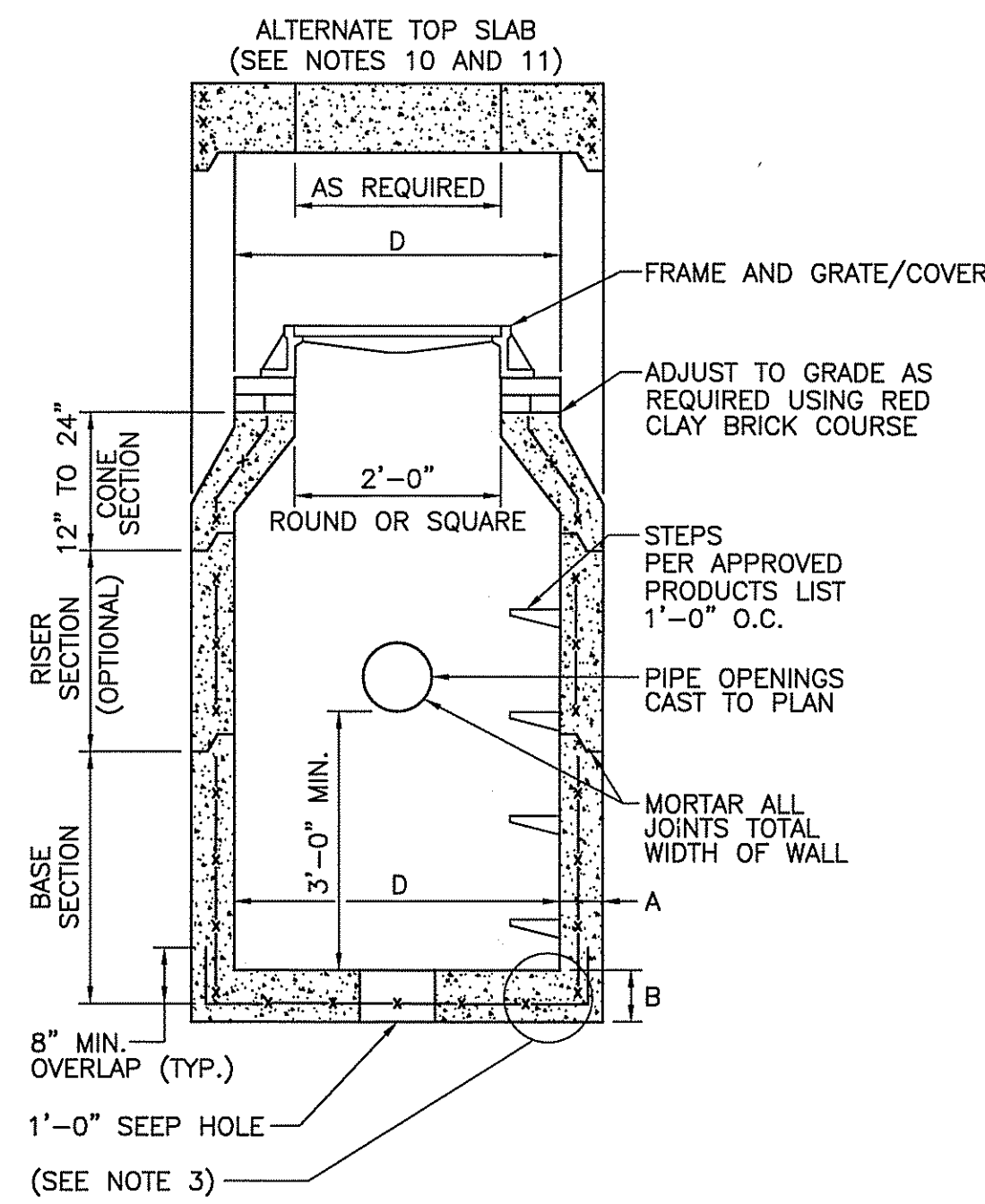
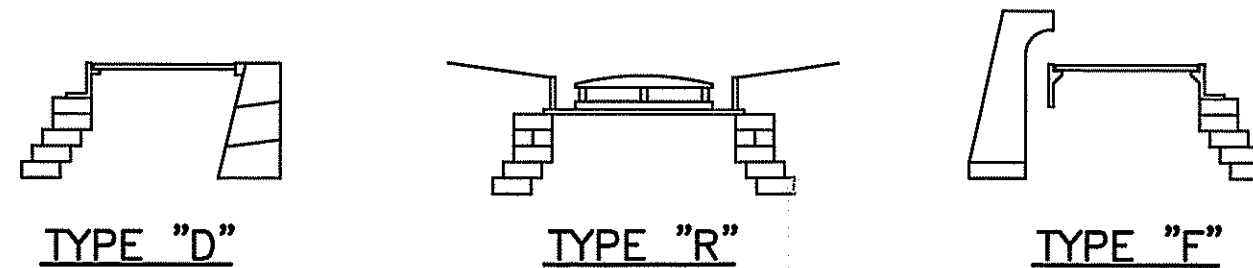


TABLE 1

CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

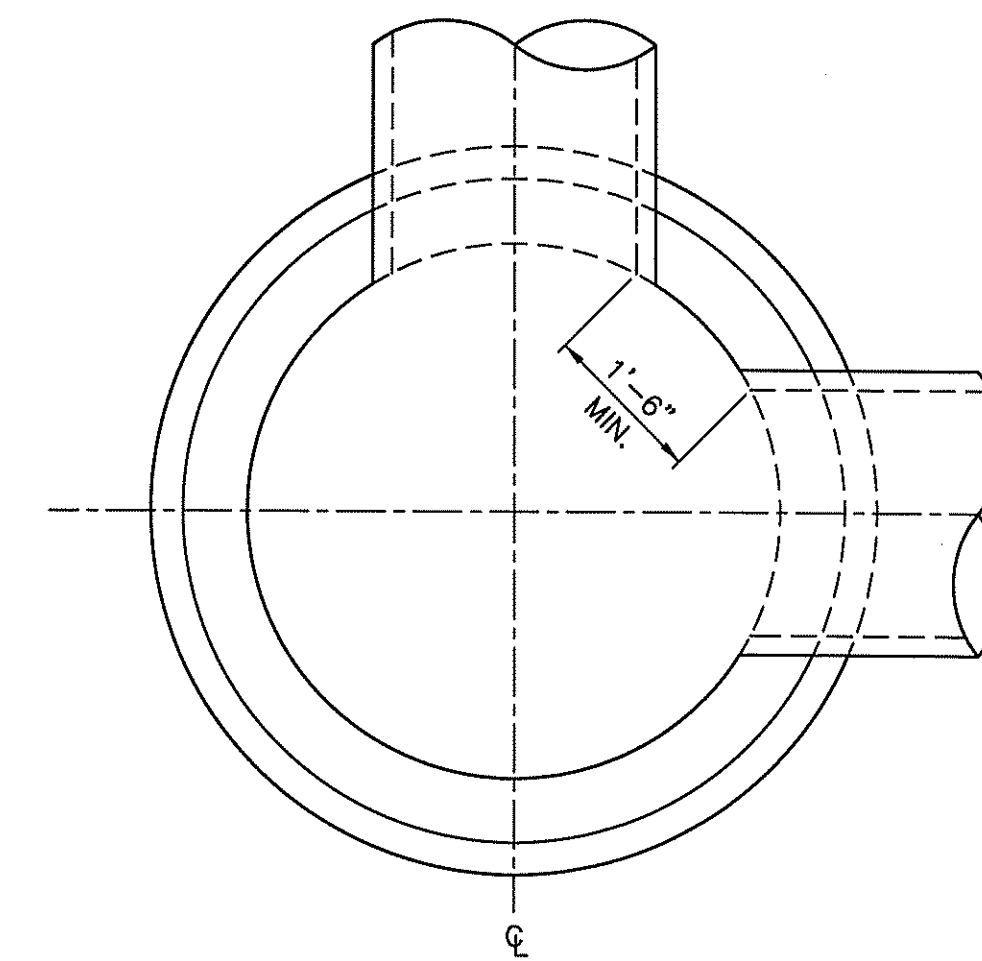
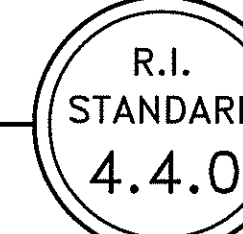


CATCH BASIN NOTES:

- SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
- SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
- STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
- STEPS SHALL CONFORM TO STANDARD 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
- ONE POUR MONOLITHIC BASE SECTION.
- ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
- CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
- FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
- THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
- ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STANDARD 4.7.2).
- ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
- REFER TO STANDARD 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN

NOT TO SCALE



CROSS SECTION OF MANHOLE OR CATCH BASIN

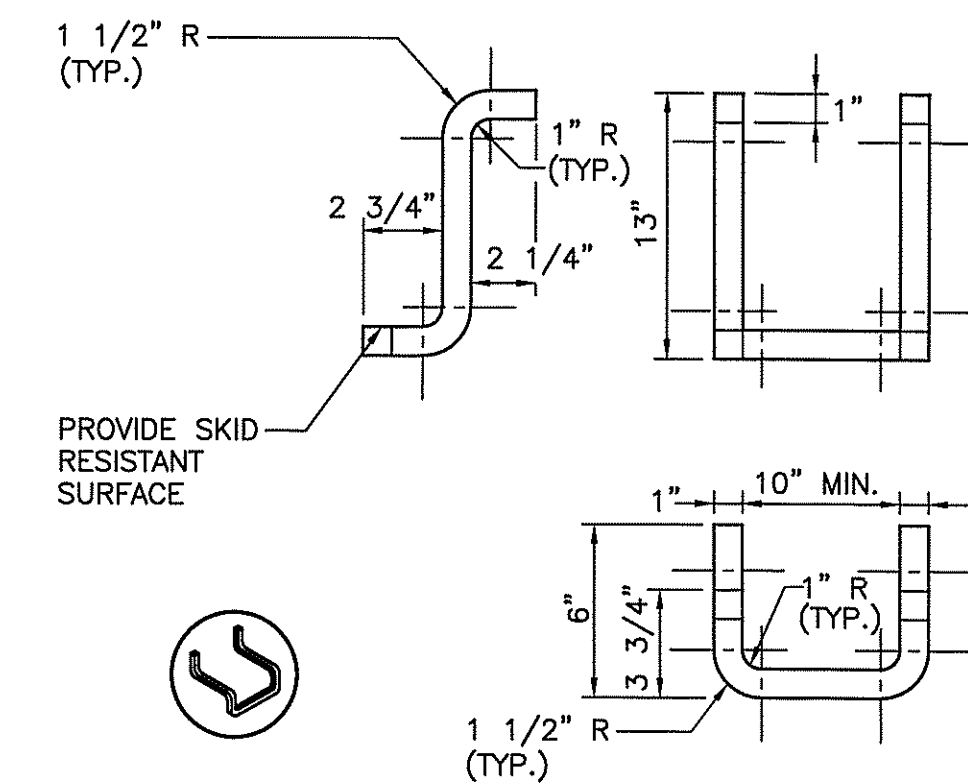
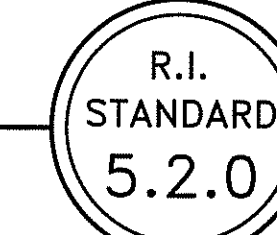
	4 FT. MANHOLE OR CATCH BASIN	5 FT. MANHOLE OR CATCH BASIN	6 FT. MANHOLE OR CATCH BASIN
MAX. PIPE O.D. STRAIGHT THRU TO 45° DEFLECTION	33 1/2" O.D. 27" R.C. PIPE	44" O.D. 36" R.C. PIPE	51" O.D. 42" R.C. PIPE
MAX. PIPE O.D. 90° DEFLECTION	23" O.D. 18" R.C. PIPE	33 1/2" O.D. 27" R.C. PIPE	37" O.D. 30" R.C. PIPE

NOTE:

- SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
- THE MINIMUM DISTANCE BETWEEN PIPES ENTERING MANHOLES AND CATCH BASINS MUST BE 1'-6". THE SIZE OF THE CATCH BASIN WILL BE DETERMINED BY THE PIPE SIZE AND ENTRY ANGLE. (SEE TABLE ABOVE.)

ROUND MANHOLES AND CATCH BASINS
MAXIMUM PIPE SIZE STANDARDS

NOT TO SCALE

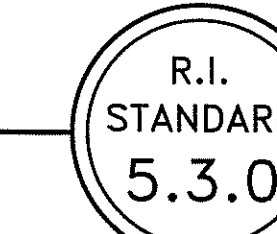


NOTES:

- STEPS SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
- CROSS SECTION AREA MAY BE REDUCED UPON SUBMISSION OF CERTIFIED LOAD TESTS. STEPS MUST SUPPORT 300 LBS.
- STOCK SHOWN IS 1" SQUARE WHICH MAY BE REPLACED BY 1" DIAMETER.

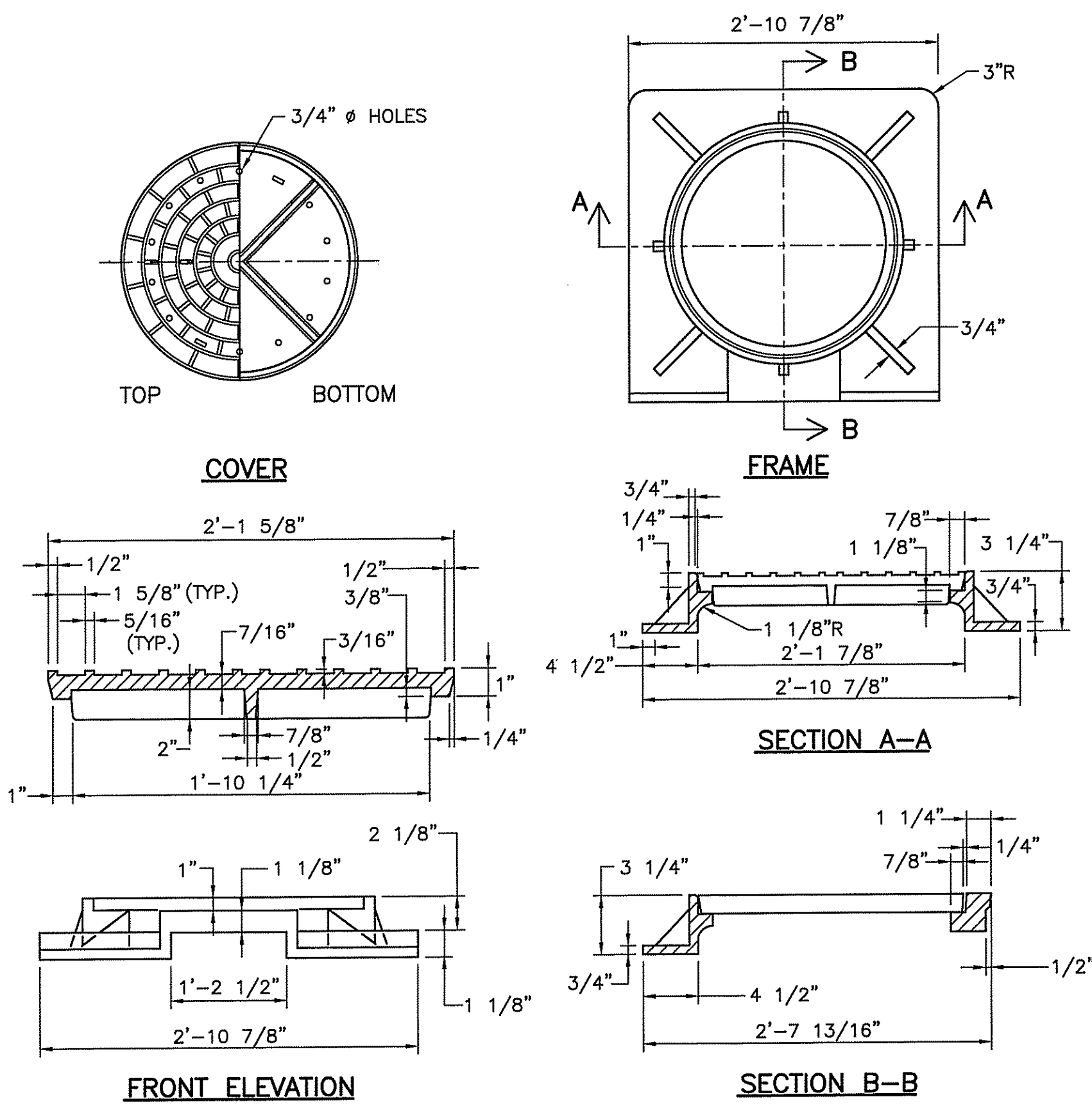
CATCH BASIN AND MANHOLE STEP

NOT TO SCALE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAY 2, 2007 FILE # 07-0161
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Haber



COVER

FRAME

SECTION A-A

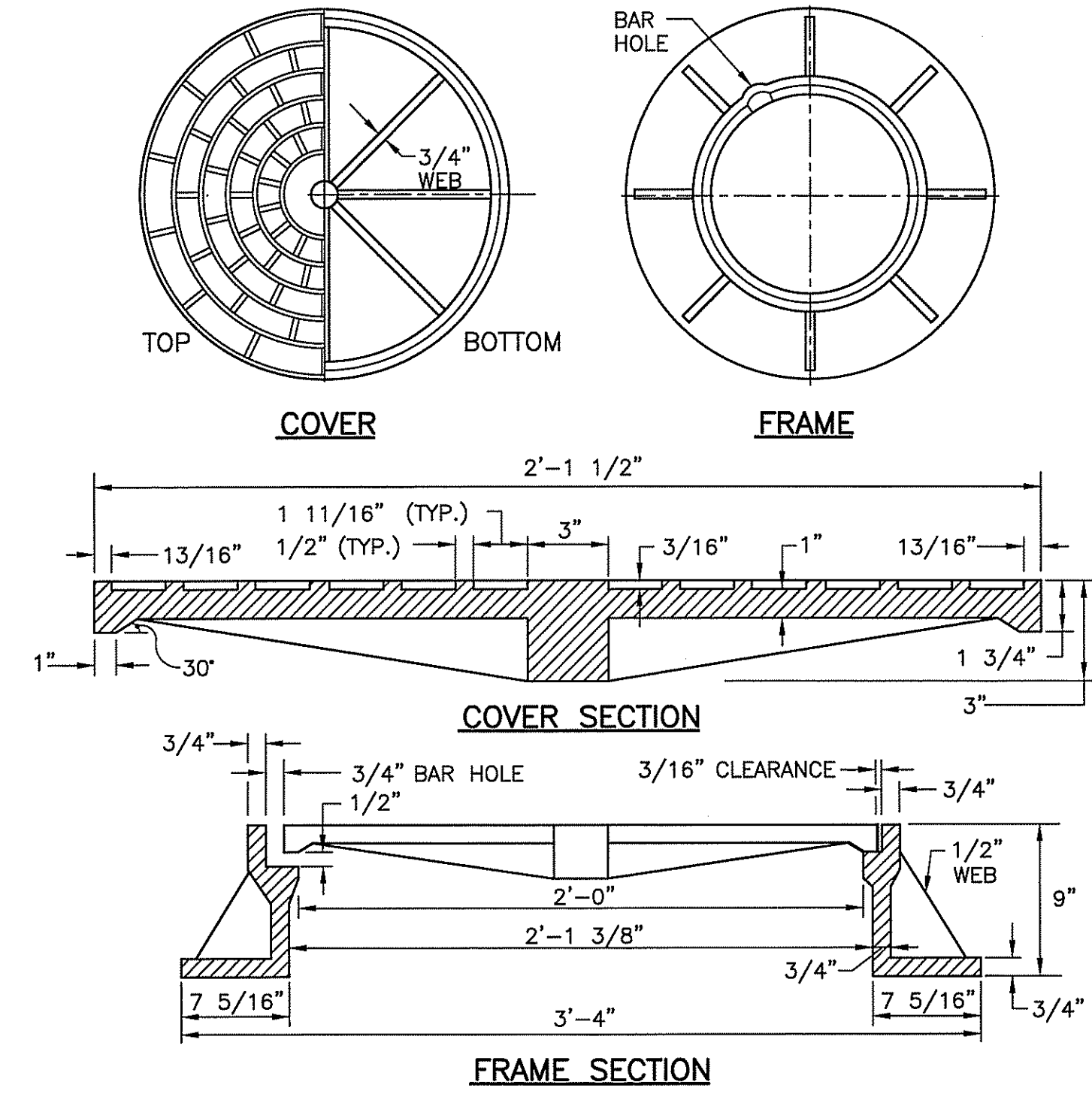
SECTION B-B

FRONT ELEVATION

- NOTES:**
1. FRAME AND COVER SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
 2. FRAME AND COVER SEATS TO BE MACHINE FINISH.

LIGHT-DUTY SQUARE FRAME AND ROUND COVER

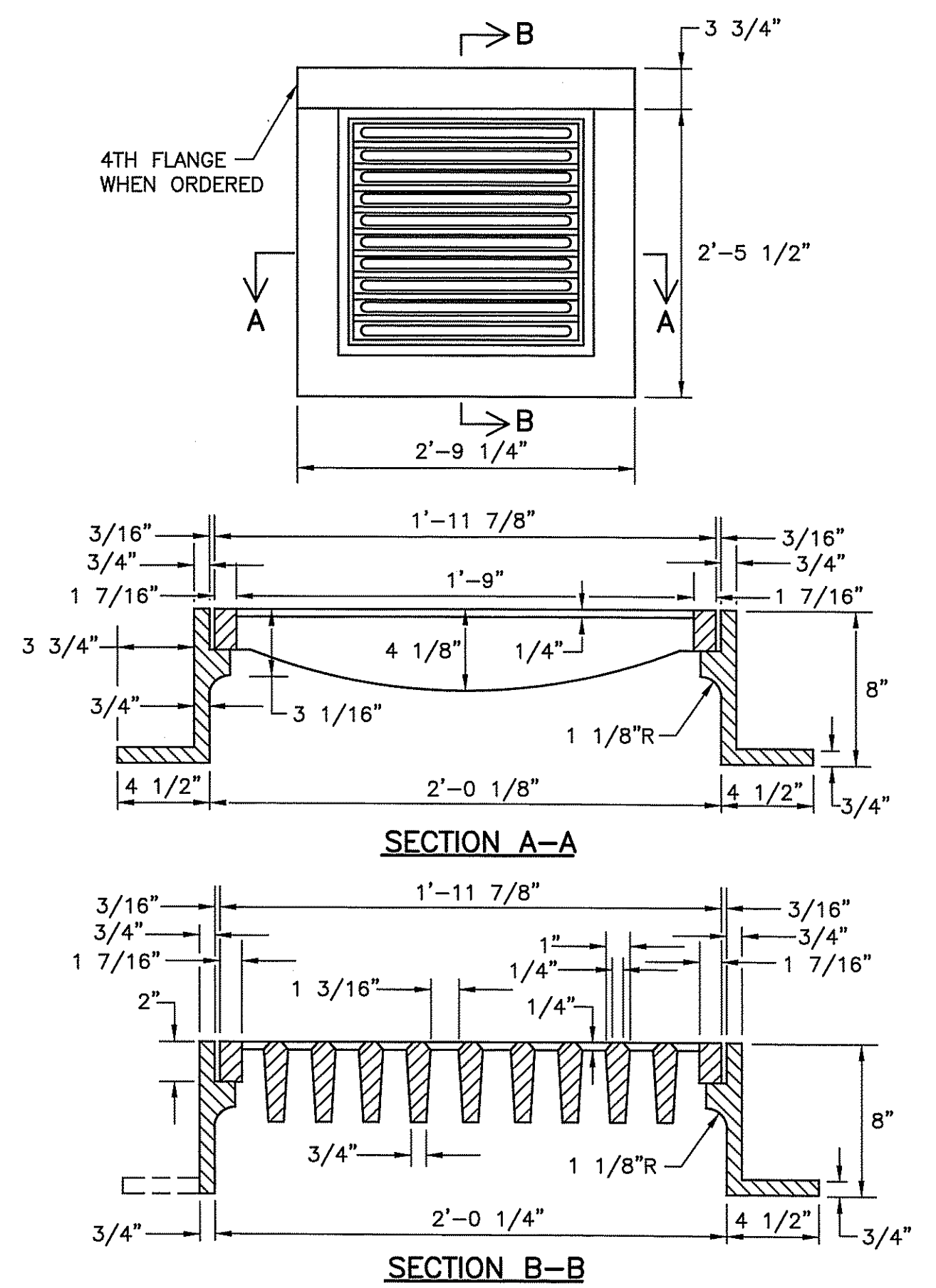
NOT TO SCALE



- COVER**
- FRAME**
- COVER SECTION**
- FRAME SECTION**
- NOTES:**
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
 2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

HEAVY-DUTY ROUND FRAME AND COVER

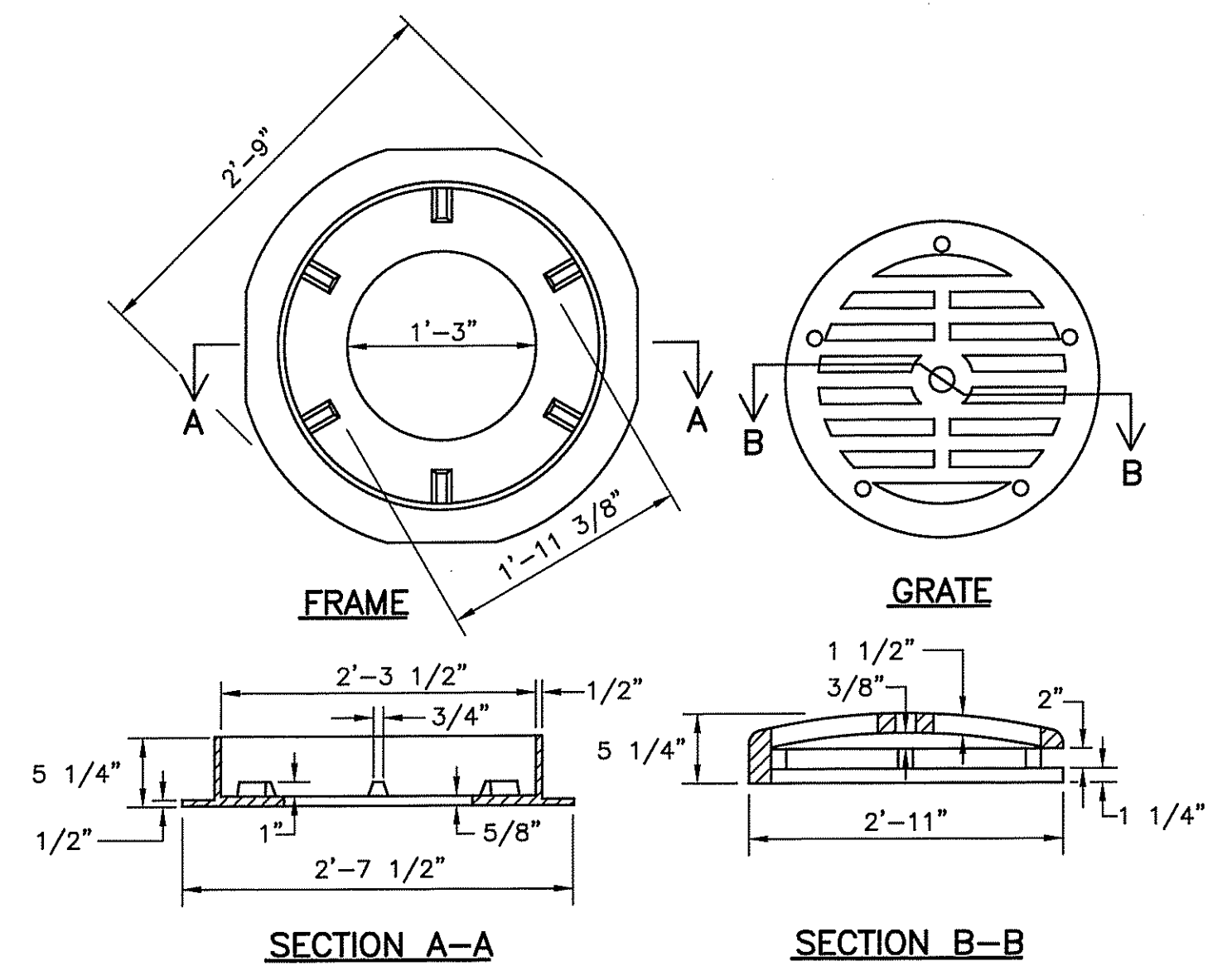
NOT TO SCALE



- SECTION A-A**
- SECTION B-B**
- NOTE:**
- FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.

SQUARE FRAME AND GRATE

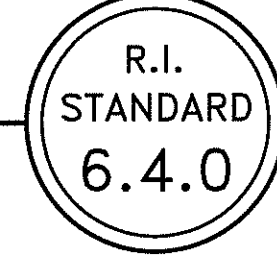
NOT TO SCALE



- FRAME**
- GRATE**
- SECTION A-A**
- SECTION B-B**
- NOTE:**
- FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.

ROUND FRAME AND GRATE

NOT TO SCALE



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 4/13/07 FILE # 07-0164
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hulse

Consulting Engineer:

Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

Surveyor of Record:
Andrews Surveyors and Engineers, Inc

Certification:
Michael P. DeFrancesco

MICHAEL P. DEFRADESCO
No. 3632
REGISTERED PROFESSIONAL ENGINEER

Revisions:		
No.	Description	Date

HOLLISTON SAND COMPANY
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RHODE ISLAND

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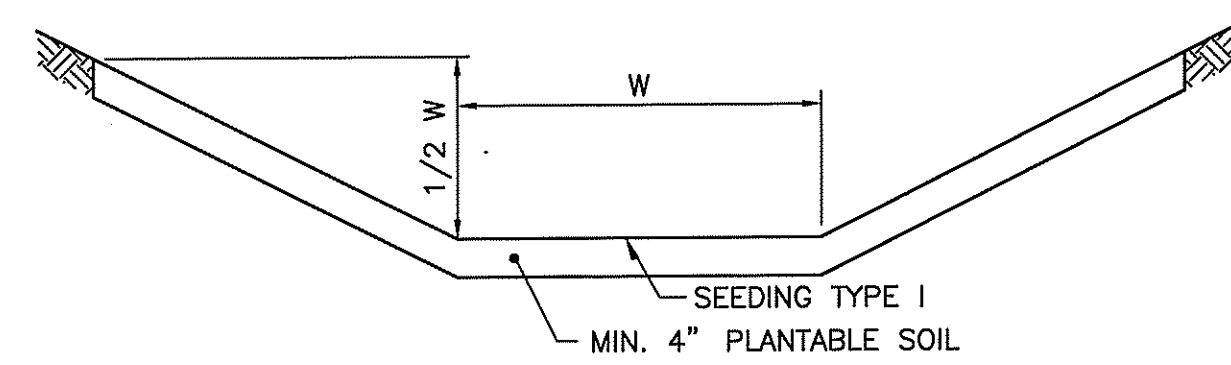
RIDEM SUBMISSION

Drawing Title:

DRAINAGE DETAILS (SHEET 3 OF 3)

Designed by: PMF
Drawn by: PMF
Checked by: MPD
Drawing No.:

Date Issued: 4-6-07
Scale: AS NOTED
Project No.:

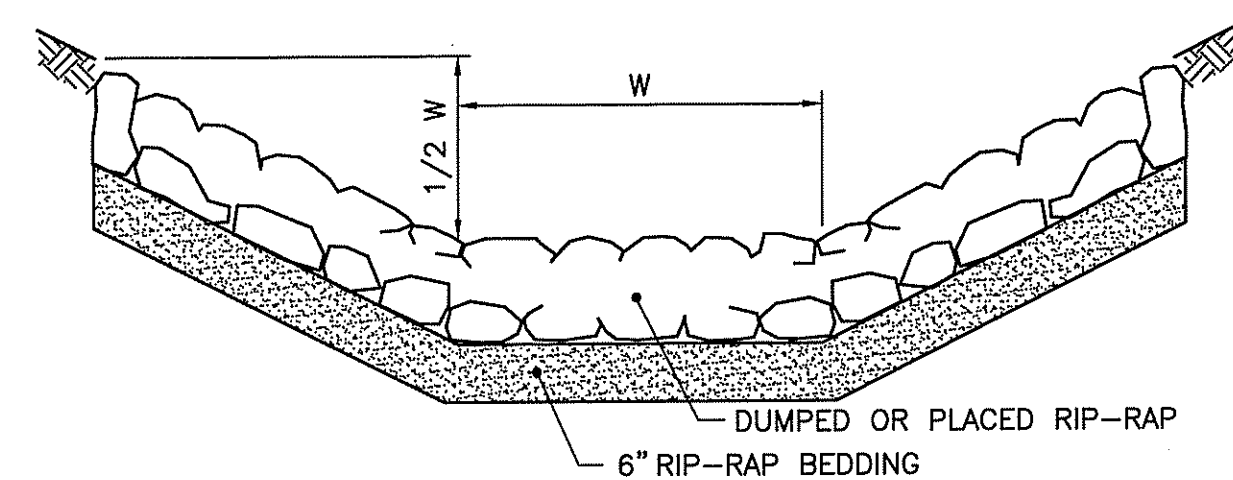


NOTE:
SLOPES MAY VARY TO SUIT CONDITIONS AS PER PLANS OR ENGINEER.

SEEDDED DITCH

NOT TO SCALE

R.I. STANDARD
8.1.0

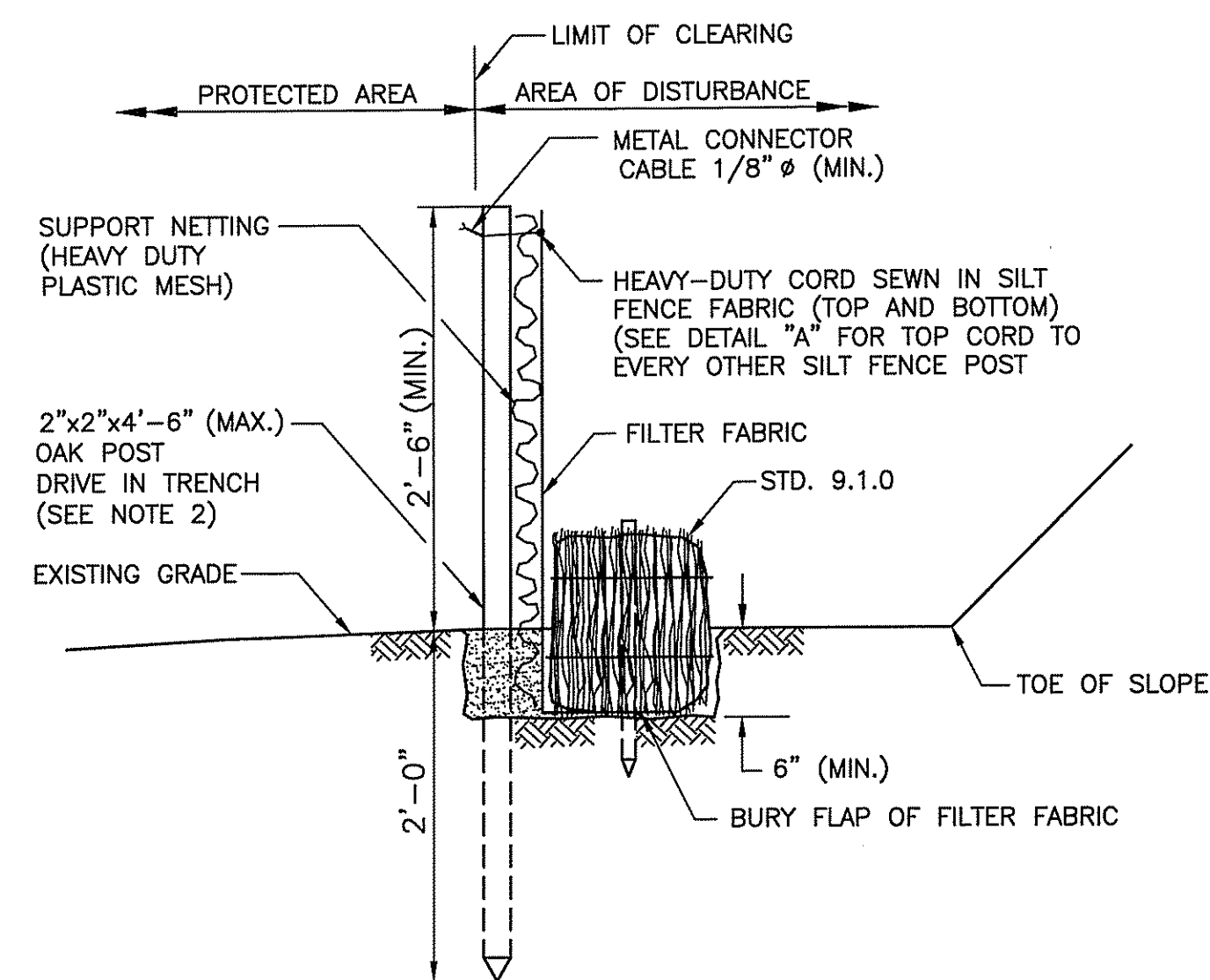


NOTES:
1. SLOPES MAY VARY TO SUIT CONDITIONS AS PER PLANS OR ENGINEER.
2. RIP-RAP AND BEDDING SIZE MAY VARY. SEE CONTRACT DOCUMENTS.

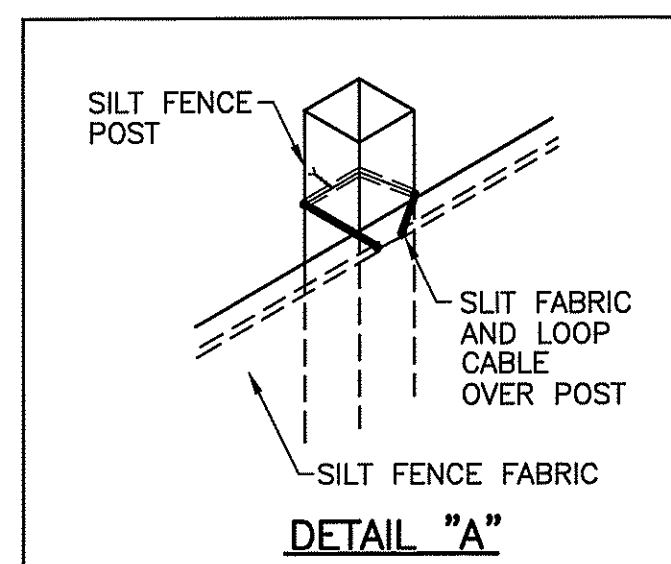
RIP-RAP DITCH

NOT TO SCALE

R.I. STANDARD
8.3.0



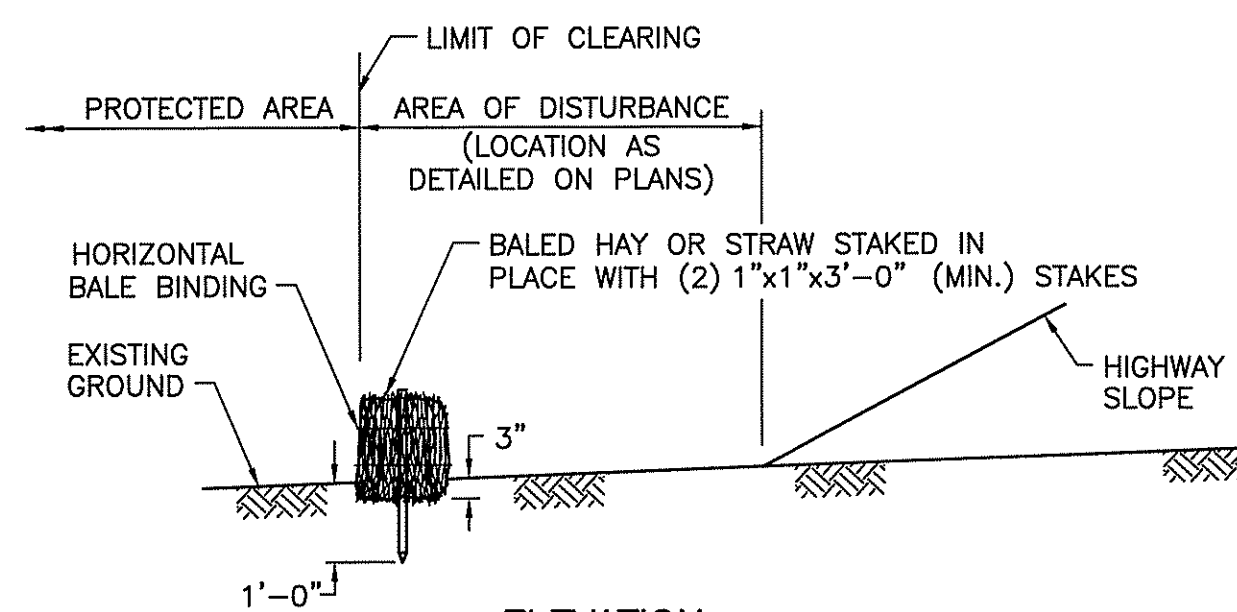
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. STD. 9.1.0 IS INSTALLED "TIGHT" AGAINST SILT FENCE. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICE. SILT FENCE FABRIC SHALL NOT BE SLIT. STD. 9.1.0 POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC. 2"x2"x4'-6" (MAX.) OAK POST FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE AND BALED HAY SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



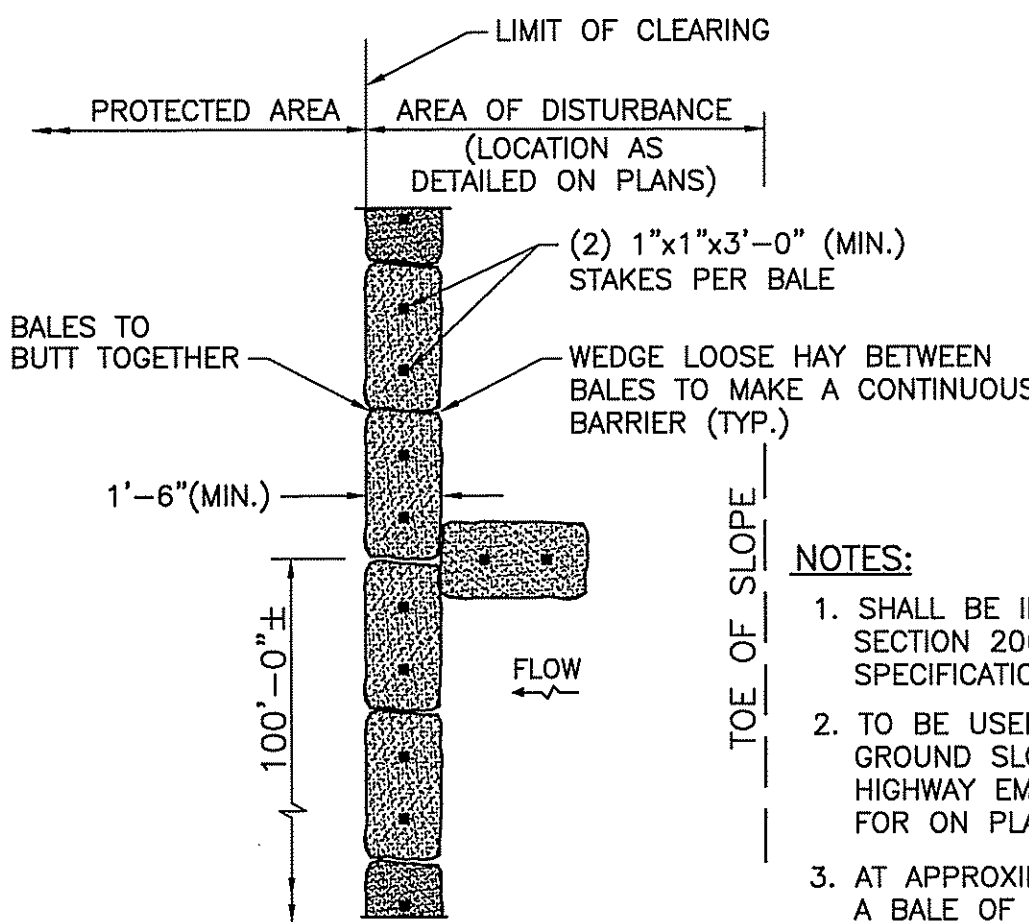
BAILED HAY EROSION CHECK AND SILT FENCE COMBINED

NOT TO SCALE

R.I. STANDARD
9.3.0



ELEVATION



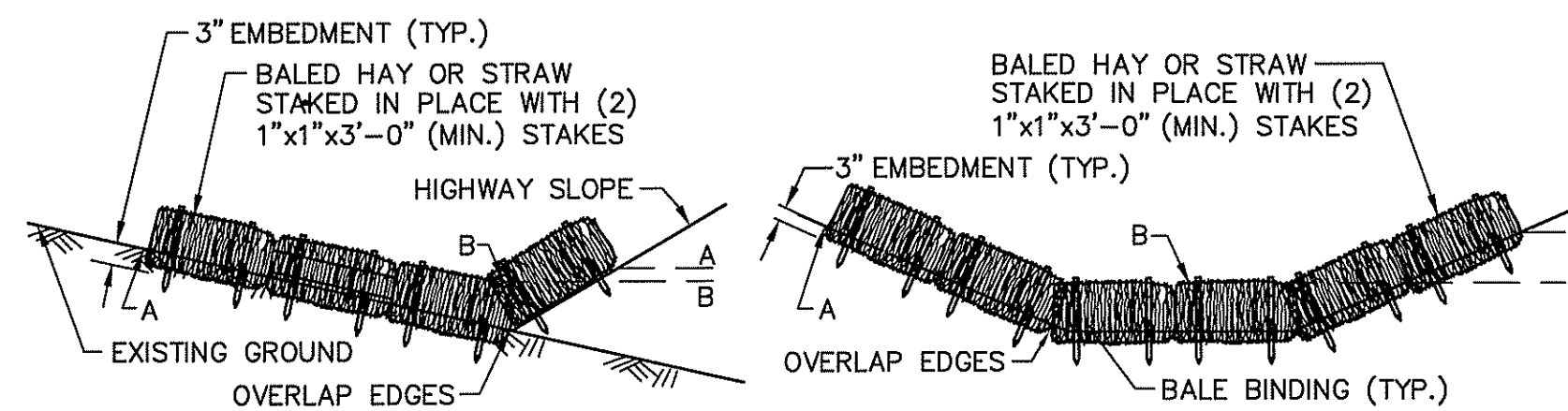
PLAN

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. TO BE USED WHERE THE EXISTING GROUND SLOPES AWAY FROM THE HIGHWAY EMBANKMENT AS CALLED FOR ON PLANS.
3. AT APPROXIMATE 100'-0" INTERVALS A BALE OF HAY IS TO BUTT PERPENDICULARLY.

BAILED HAY EROSION CHECK

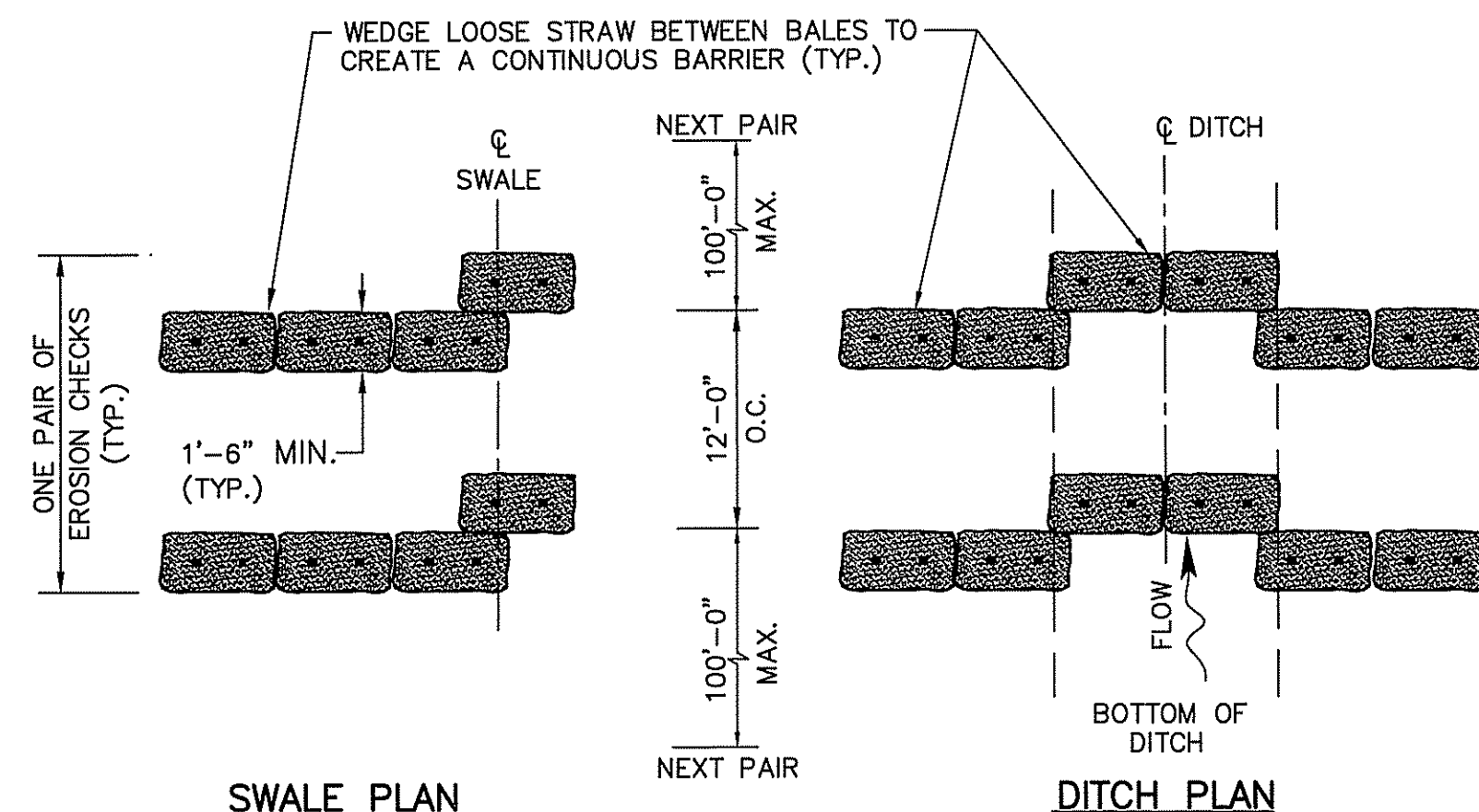
NOT TO SCALE

R.I. STANDARD
9.1.0



SWALE ELEVATION

DITCH ELEVATION



SWALE PLAN

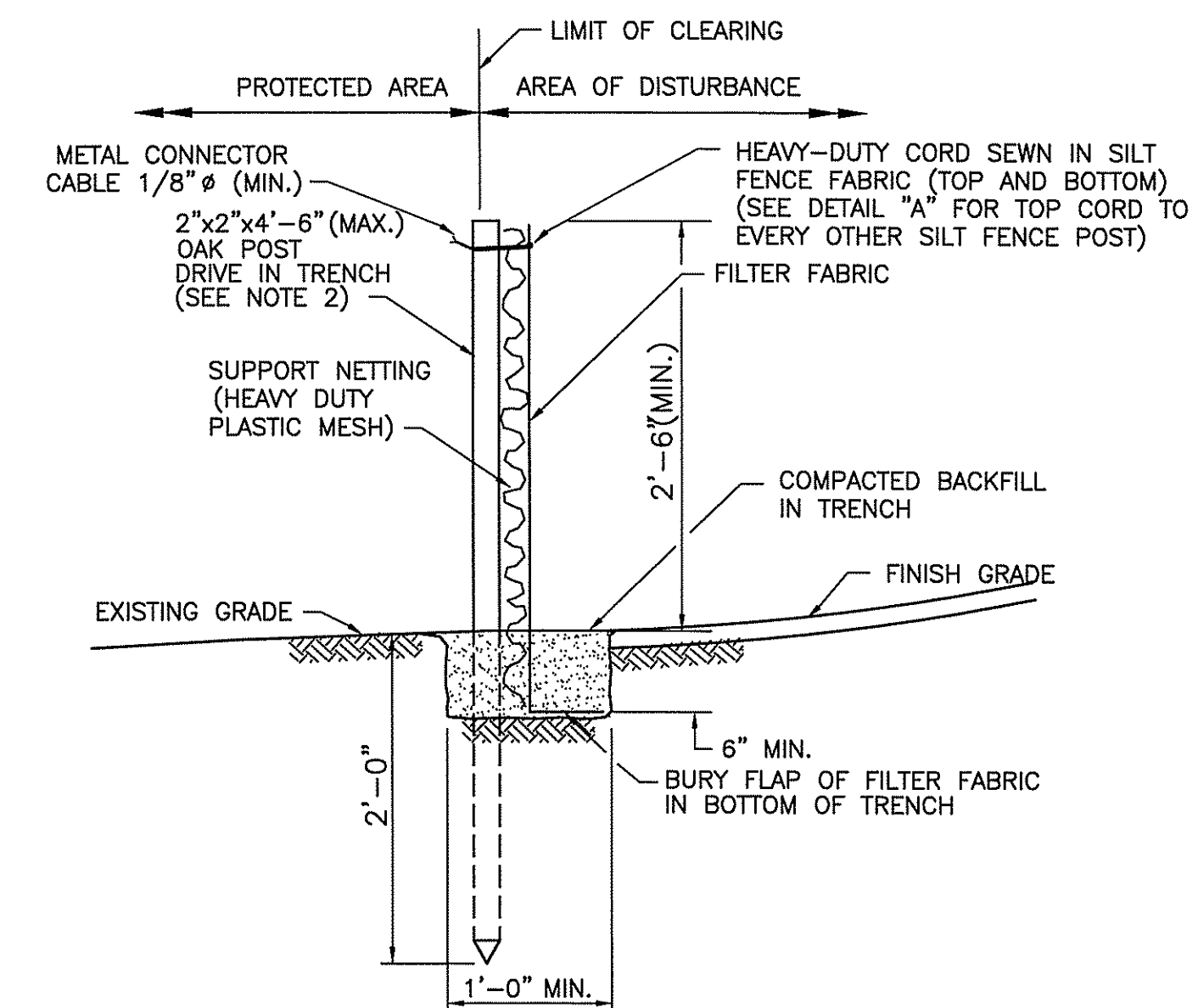
DITCH PLAN

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE R.I. STANDARD SPECIFICATIONS.
2. TO BE USED IN LOCATIONS WHERE THE EXISTING GROUND SLOPES IN TOWARD THE EMBANKMENT OR IN DRAINAGE DITCHES AS CALLED FOR ON THE PLANS.
3. THE BALES ARE TO BE EMBEDDED A MINIMUM OF 3" INTO THE EXISTING GROUND, HIGHWAY SLOPE OR DITCH SECTION.
4. POINTS "A" SHOULD BE AT A HIGHER ELEVATION THAN POINTS "B".

BAILED HAY DITCH SWALE EROSION CHECK

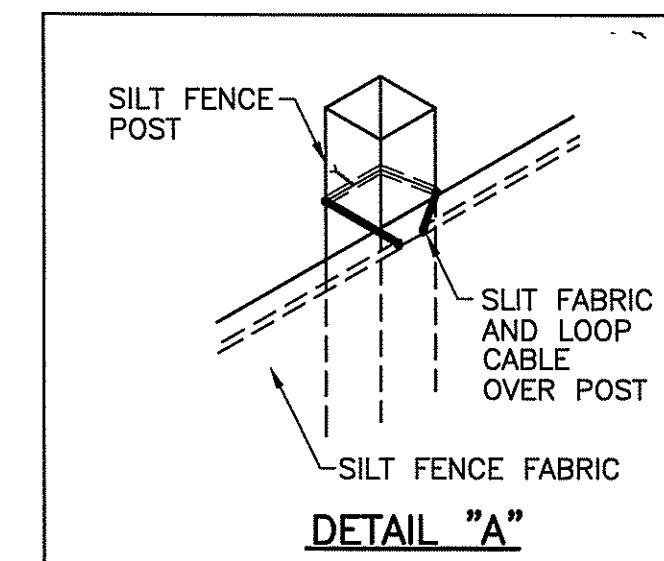
NOT TO SCALE

R.I. STANDARD
9.4.0



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. 2"x2"x4'-6" (MAX.) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
3. 1"x1"x4'-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
4. SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



SILT FENCE DETAIL

NOT TO SCALE

R.I. STANDARD
9.2.0

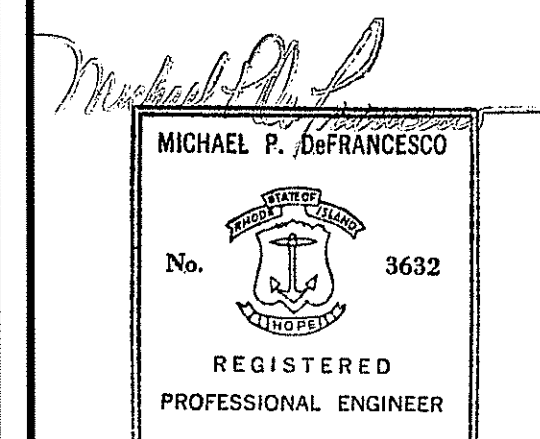
Consulting Engineer:

Michael P. DeFrancesco, PE, LLC

Wetland Biologist:
Natural Resource Services

Surveyor of Record:
Andrews Surveyors and Engineers, Inc

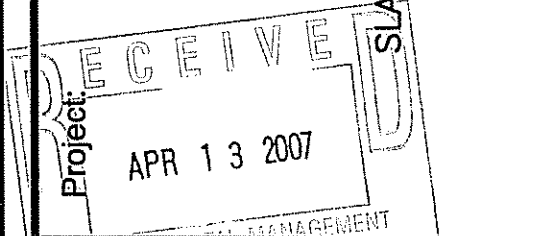
Certification:



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
P.O. BOX 1168
SLATERSVILLE, RHODE ISLAND



Drawing Status:

RIDEM SUBMISSION

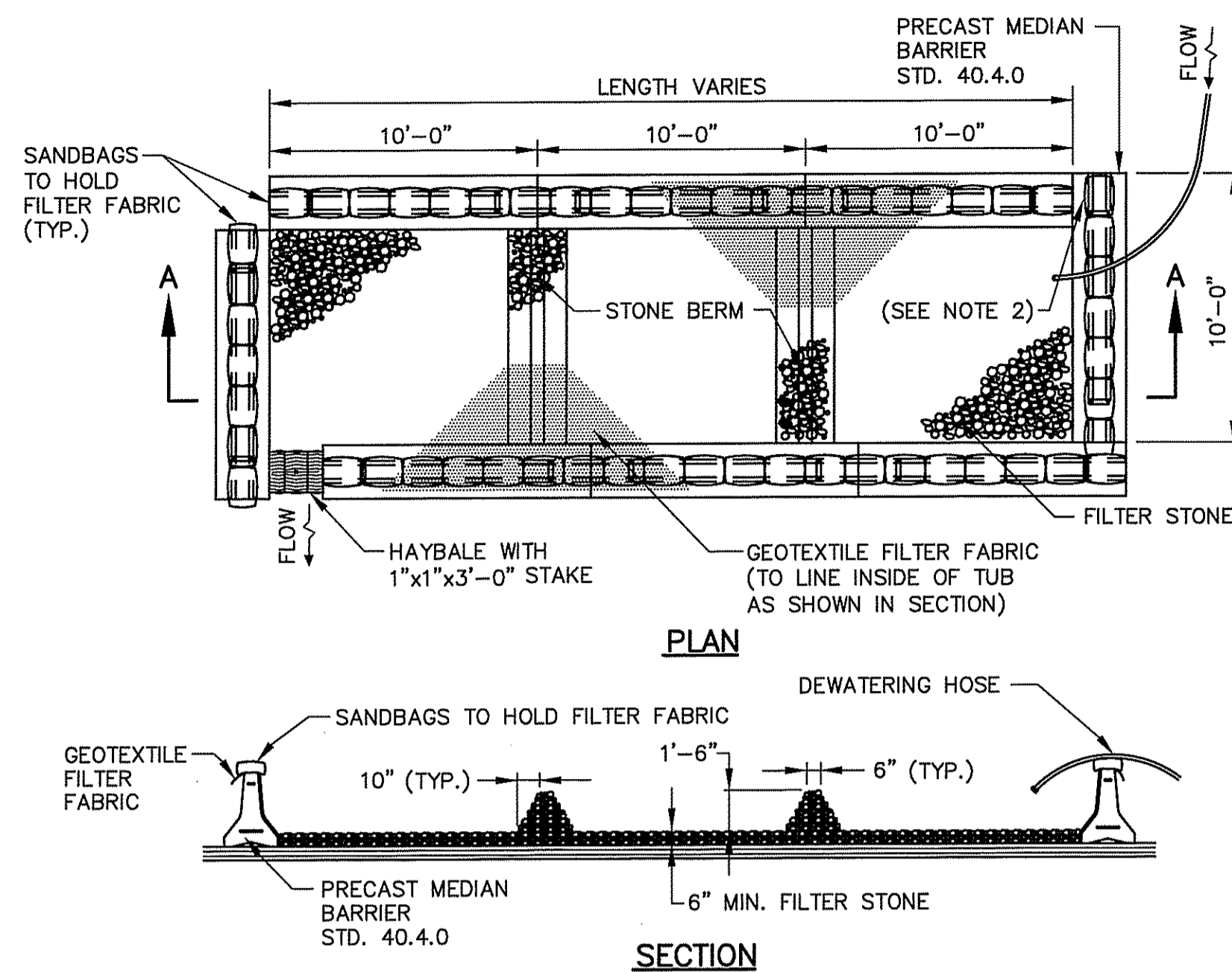
Drawing Title:

EROSION CONTROL AND SEDIMENTATION DETAILS (SHEET 1 OF 2)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAY 23 2007. FILE # 07-061
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Harbert

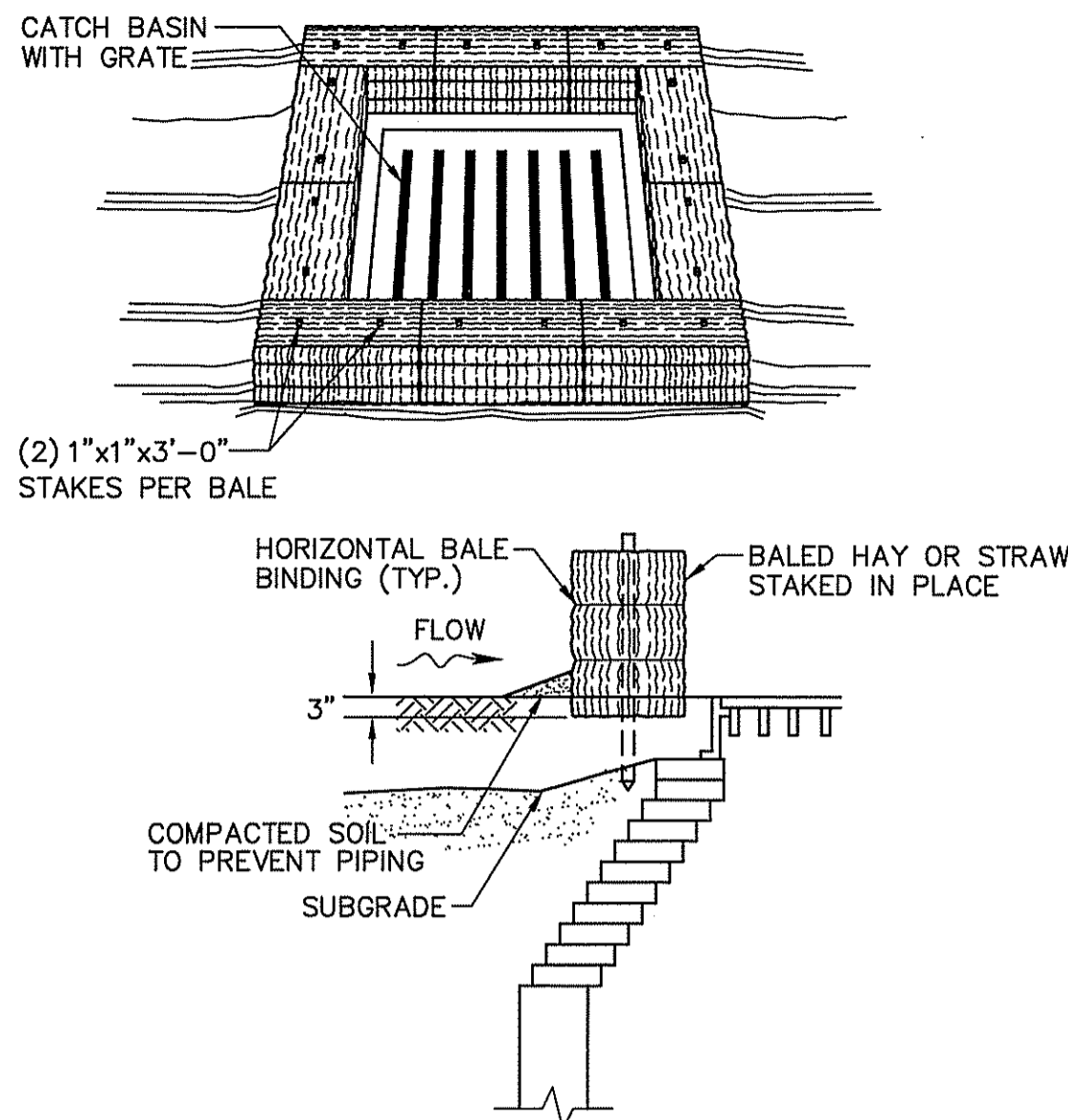
Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: AS NOTED
Checked by: MPD	Project No.:
Drawing No.:	



NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

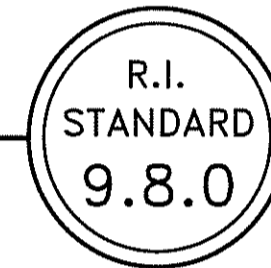
DEWATERING BASIN
NOT TO SCALE



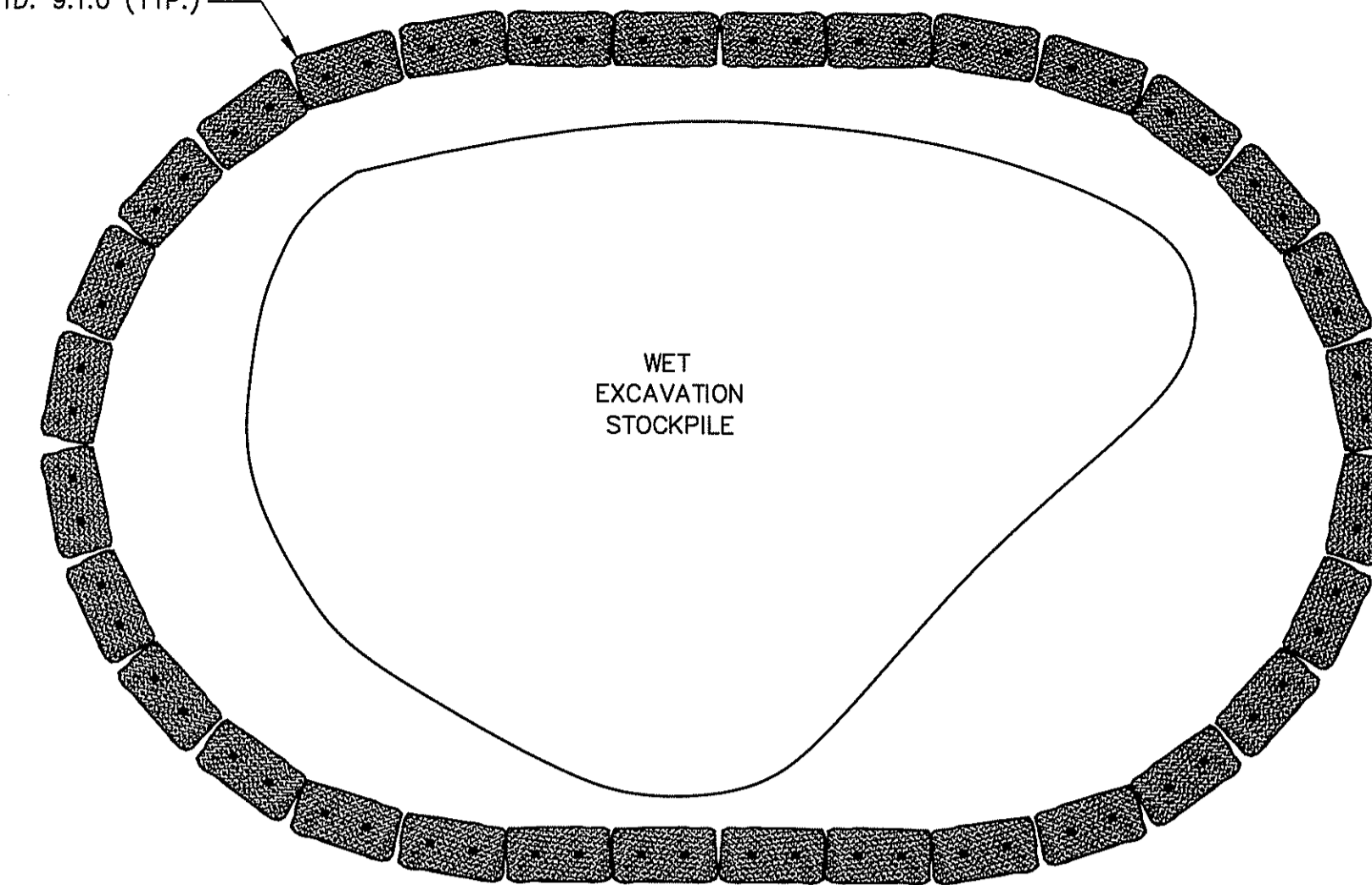
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 209 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS INLET PROTECTION CAN ALSO BE USED WHEN CONSTRUCTION SEQUENCING REQUIRES A CATCH BASIN TO BE EXPOSED TO SEDIMENT FROM THE SUBGRADE. THIS WILL BE ACHIEVED BY INSTALLING THE BALED HAY AS SHOWN ON THIS DETAIL INTO THE SUBGRADE.
3. THE PERIMETER CONFIGURATION OF THE BALED HAY WILL VARY DEPENDING ON THE PARTICULAR TYPE OF CATCH BASIN INLET BEING CONSTRUCTED. THE ENGINEER WILL PROVIDE SPECIFIC DIRECTION IN SUCH CASES.

**BALED HAY CATCH BASIN
INLET PROTECTION**
NOT TO SCALE



R.I. STD. 9.1.0 (TYP.)



NOTES:

1. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. PROVIDE DEWATERING BASINS OR OTHER SUITABLE MEANS FOR CONTROLLING WATER POLLUTION CAUSED BY SEDIMENT LADEN DISCHARGE FROM EXCAVATION SITES. THE DEWATERING BASIN SHALL BE IN ACCORDANCE WITH R.I. STD. 9.7.0 AND SECTION "TEMPORARY DEWATERING BASINS" OF THE SPECIFICATIONS.
3. PROVIDE STOCKPILE BASINS FOR WET EXCAVATED SOIL. THE STOCKPILE BASINS SHALL BE IN ACCORDANCE WITH THIS DETAIL AND WITH SECTION "STOCKPILE BASIN FOR WET EXCAVATION SOIL" OF THE SPECIFICATIONS.
4. THE OVERALL SIZE AND NUMBER OF DEWATERING BASINS AND STOCKPILE BASINS FOR WET EXCAVATED SOIL SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

STOCKPILE BASIN FOR WET EXCAVATED SOIL
NOT TO SCALE

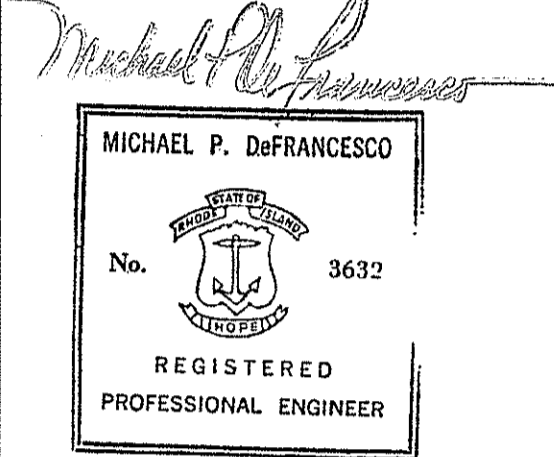
Consulting Engineer:

**Michael P.
DeFrancesco, PE, LLC**

Wetland Biologist:
Natural Resource Services

Surveyor of Record:
Andrews Surveyors
and Engineers, Inc

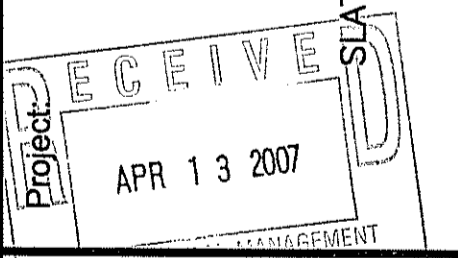
Certification:



Revisions:

No.	Description	Date

HOLLISTON SAND COMPANY
P.O. BOX 1168
SLATERSVILLE
RHODE ISLAND



Drawing Status:

**RIDEM
SUBMISSION**

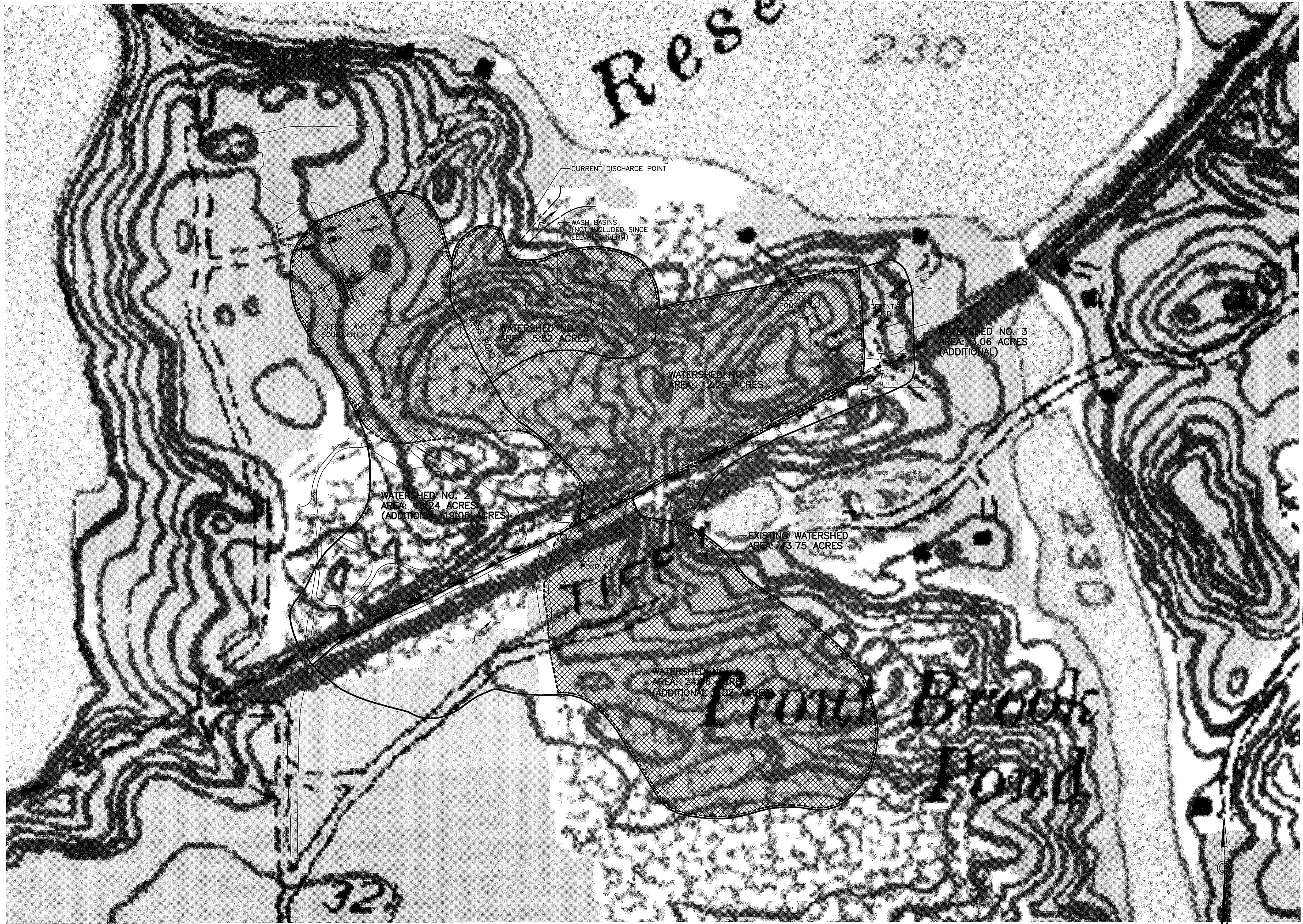
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**EROSION CONTROL
AND SEDIMENTATION
DETAILS
(SHEET 2 OF 2)**

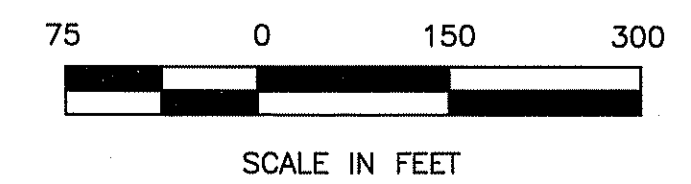
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAY 23 2007 FILE # 07-0164
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

Charles A. Haber

Designed by: PMF	Date Issued: 4-6-07
Drawn by: PMF	Scale: AS NOTED
Checked by: MPD	Project No.:
Drawing No.:	



WATERSHED PLAN



Consulting Engineer:

Michael P.
DeFrancesco, PE, LLC

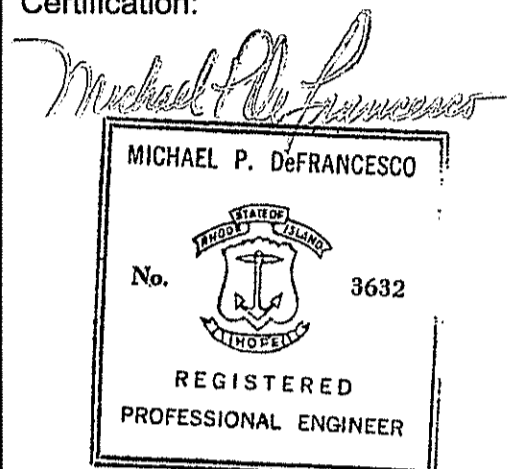
Wetland Biologist:

Natural Resource Services

Surveyor of Record:

Andrews Surveyors
and Engineers, Inc

Certification:



Revisions:

No.	Description	Date

HOLLAND COMPANY
 RHODE ISLAND
 SLATERSVILLE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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 AS SPECIFIED IN THE BOARD OF APPROVAL
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 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles H. Barber

RECEIVED
 APR 13 2007
 PROJECT

Drawing Status:

RIDEM
SUBMISSION

Drawing Title:

WATERSHED PLAN

Designed by: PMF Date Issued: 4-6-07

Drawn by: PMF Scale: 1" = 150'

Checked by: MPD Project No.:

Drawing No.:

W-1