

EW – EMERGENT WETLAND PLANT LIST					
ZONE A GROUP – LONG TERM SATURATION, ABOVE HIGH WATER					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
CL	PEM	CAREX LACUSTRIS	LAKEBANK SEDGE	BR	2–3'
GG	PEM	GLYCERIA GRANDIS	REED MEADOWGRASS	BR	2–3'
AN	PEM	ASTER NOV–BELGII	NEW YORK ASTER	BR	2–3'
WHM	PEM	(SEE SEED MIX TABLE)	WETLAND HUMMOCK SEED MIX	BR	4/LBS/ACRE
ZONE B GROUP – SEASONALLY FLOODED TO 1' DEEP					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
JE	PEM	JUNCUS CANADENSIS	CANADA RUSH	BR	12"
SA	PEM	SCIRPUS ATROVIRENS	GREEN BULRUSH	BR	12"
TL	PEM	TYPHA LATIFOLIA	CATTAIL	BR	18"
CS	PEM	CAREX STRICTA	TUSsock SEDGE	BR	12"
IRV	PEM	IRIS VERSICOLOR	BLUEFLAG IRIS	BR	12"
ZONE C GROUP – SEASONAL/PERMANENTLY FLOODED – 1' – 2' DEEP					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
AC	PEM	ACORUS CALAMUS	SWEET FLAG	BR	18"
SL	PEM	SAGITTARIA LATIFOLIA	DUCK POTATO	BR	18"
TL	PEM	TYPHA LATIFOLIA	CATTAIL	BR	18"
IP	PEM	IRIS PSEUDACORUS	YELLOW IRIS	BR	18"
PV	PEM	PELTANDRA VIRGINICA	ARROW ARUM	BR	18"
ZONE D GROUP – PERMANENTLY FLOODED – 2'+ DEEP					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
PP	PEM	POTAMOGETON PECTINATUS	SAGO PONDWEED	BR	24"
VA	PEM	VALLISNERIA AMERICANA	WATER CELERY	BR	24"

SSW – SCRUB SHRUB WETLAND PLANT LIST					
ZONE 1 GROUP – LONG TERM SATURATION					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
SD	PFO/PSS	SALIX DISCOLOR	PUSSY WILLOW	3–4' HT.	6–8'
SP	PFO/PSS	S. PURPUREA	STREAMCO WILLOW	3–4' HT.	6–8'
AR	PFO/PSS	ALNUS RUGOSA	SPECKLED ALDER	3–4' HT	6–8'
CO	PFO/PSS	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	3–4' HT.	6–8'
ZONE 2 GROUP – SHORT TERM SATURATION					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
CR	PFO/PSS	CORNUS RACEMOSA	GRAY DOGWOOD	2–3'	4'
CS	PFO/PSS	CORNUS STOLONIFERA	RED OSIER DOGWOOD	2–3'	4'
IV	PFO/PSS	ILEX VERTICILLATA	WINTERBERRY	2–3'	4–6'
VD	PFO/PSS	VIBURNUM DENTATUM	ARROWWOOD	3–4'	6'
SC	PFO/PSS	SAMBUCUS CANADENSIS	ELDERBERRY	2–3'	6'
VC	PFO/PSS	VACCINIUM CORYMBOSUM	BLUEBERRY	2–3'	4'
ESM	PFO/PSS	(SEE SEED MIX TABLE)	ENVIRONMENTAL SEED MIX	SEED	15 LBS/ACRE

FW – FORESTED WETLAND PLANT LIST					
SYMBOL	CLASS	BOT. NAME	COMMON NAME	SIZE	SPACING
AR	PFO/PSS	ACER RUBRUM	RED MAPLE	1–1 1/2" CAL.	10–20'
FP	PFO/PSS	FRAXINUS PENNSYLVANICA	GREEN ASH	1–1 1/2" CAL.	10–20'
SN	PFO/PSS	SALIX NIGRA	BLACK WILLOW	1–1 1/2" CAL.	10–20'
UA	PFO/PSS	ULMUS AMERICANA	AMERICAN ELM	1–1 1/2" L.	10–20'
ESM	PFO/PSS	(SEE SEED MIX TABLE)	ENVIRONMENTAL SEED MIX	SEED	15 LBS/ACRE

ENVIRONMENTAL SEED MIX – ESM	
GRASS NAMES	PERCENT BY WEIGHT
KENTUCKY BLUE GRASS	15%
PERENNIAL RYE GRASS	20%
TIMOTHY	15%
ORCHARD GRASS	10%
BIRDSFOOT TREFOIL	15%
RED CLOVER	10%
TALL FESCUE	10%
REED CANARY GRASS	05%
BIOFILTERS, UNDERSEEDING FW & SSW ZONE 2, AND MIXED WITH WHM WHERE INDICATED AT 15 LBS/ACRE. (20 LBS/ACRE IN BIOFILTERS)	

WETLAND WILDFLOWER SEED MIX – WWF		
(SOUTHERN TIER CONSULTING, INC.)		
PANICUM DICHOTOMIFLORUM	PANIC GRASS	25%
POLYGONUM PENNSYLVANICUM	PA SMARTWEED	25%
BIDENS CERNUA	NODDING BEGGAR TICKS	10%
EUPATORIUM HASTATA	BONESET	10%
EUPATORIUM MACULAFUM	JOE–PYE WEED	10%
SOLIDAGO CANADENSIS	CANADA GOLDENROD	10%
VERNONIA NOVEBORACENSIS	NY IRONWEED	05%
VERBENA HASTATA	BLUE VERVAIN	05%
SEED AT 5 LBS./ACRE ON LONG AND SHORT TERM SATURATED GROUND WHERE INDICATED ADJACENT TO SSW AREAS. MIX WITH ENVIRONMENTAL SEED MIX @ 15 LBS/ACRE.		

WETLAND HUMMOCK SEED MIX – WHM		
(SOUTHERN TIER CONSULTING, INC.)		
CAREX VULPINOIDEA	FOX SEDGE	20%
LEERSIA ORYZOIDES	RICE CUT GRASS	15%
CAREX LURIDA/CRINITA	SEDE	15%
JUNCUS EFFUSUS	SOFT RUSH	20%
SCIRPUS ATROVIRENS/CYPERINUS	BULRUSH	15%
CAREX COMOSA/INTUMESCENS	SEDE	15%
SEED AT 4 LBS/ACRE ON SATURATED GROUND ABOVE HIGH WATER AROUND EMERGENT AREAS, UNDERSEEDING HERBACEOUS PERENNIALS IN EW ZONE A.		

NOTE:
THE WETLAND BOUNDARY AS REPRESENTED ON THESE PLANS DEPICTS THE LIMITS OF FEDERAL JURISDICTIONAL WETLANDS. NO CONSTRUCTION, GRADING, FILLING, EXCAVATING, CLEARING, STOCKPILING, STORING, STAGING OR OTHER RELATED ACTIVITY SHALL BE PERMITTED WITHIN THE WETLANDS, EXCEPT AS DESCRIBED IN THESE PLANS AND AUTHORIZED IN THE PERMIT DOCUMENT. SILT FENCE AND HAY BALE DYKES FOR TEMPORARY EROSION CONTROL SHALL BE UTILIZED AS NECESSARY. ANY ADDITIONAL WORK IN THE WETLAND AREA NOT SHOWN ON THESE PLANS AND NOT AUTHORIZED IN THE PERMIT SHALL NOT BE DONE WITHOUT FIRST CONTACTING THE ENGINEER OR ARMY CORPS OF ENGINEERS (ACOE).

PERMITS:
THE CONTRACTOR IS ADVISED THAT THEIR PERFORMANCE IS SUBJECT TO ALL THE TERMS AND CONDITIONS CONTAINED IN THE PERMIT ISSUED BY THE ARMY CORPS OF ENGINEERS.

COMPLIANCE IS ABSOLUTELY MANDATORY, AND FAILURE TO COMPLY OR ENSURE THAT ITS CONTRACTORS COMPLY MAY RESULT IN SANCTIONS AGAINST THE OWNER/DEVELOPER INCLUDING BUT NOT LIMITED TO, A SUSPENSION OR REVOCATION OF THE PERMIT. SUSPENSION OR REVOCATION OF THE PERMIT WILL REQUIRE CESSATION OF ANY WORK SUBJECT TO THE REVOCATION OR SUSPENSION ORDER.

THE CONTRACTOR IS HEREBY REQUIRED TO COMPLY WITH ALL TERMS AND CONDITIONS OF THE PERMIT. THE CONTRACTOR IS FURTHER ADVISED THAT THE PLANS HAVE BEEN PREPARED IN SUCH A WAY AS TO CONFORM TO THE PERMIT. THE CONTRACTOR SHALL NOT BE PERMITTED TO MODIFY ANY CONSTRUCTION SEQUENCE WHICH WOULD CONTRAVENE THE TERMS AND CONDITIONS OF THE PERMIT.

NOTES:
1) PRIOR TO THE START OF THE CLEARING AND GRUBBING AND/OR ANY CONSTRUCTION ADJACENT TO THE WETLAND, THE ENGINEER SHALL MARK OUT THE WETLAND AREAS AND AREAS TO BE PRESERVED, THE TREES TO BE SAVED, AND THE LOCATION OF SILT FENCES FOR TEMPORARY EROSION CONTROL & PROTECTIVE BARRIER. NO CONSTRUCTION EQUIPMENT SHALL BE ALLOWED WITHIN THE BOUNDARIES OF THE WETLAND AREAS TO BE PRESERVED AS SHOWN ON THE PLANS BY THE BARRIER AND THE SILT FENCE. NO REMOVAL OF ANY TREES OR PLANT MATERIAL SHALL BE ALLOWED WITHIN THESE AREAS WITHOUT THE APPROVAL OF THE ENGINEER.

2) THE WETLAND TO BE CREATED IS GENERALLY SHOWN ON THESE PLANS AND DETAILS. THE FINAL SHAPE AND LOCATION OF THE WETLAND AREAS WILL BE DETERMINED BY THE ENGINEER PRIOR TO THE START OF ANY CLEARING OR GRUBBING. THE INTENT IS TO SAVE SELECTED EXISTING VEGETATION, CREATE A NATURALISTIC EDGE, AND PROVIDE SHADE FOR NEW AND TRANSPLANTED PLANTINGS.

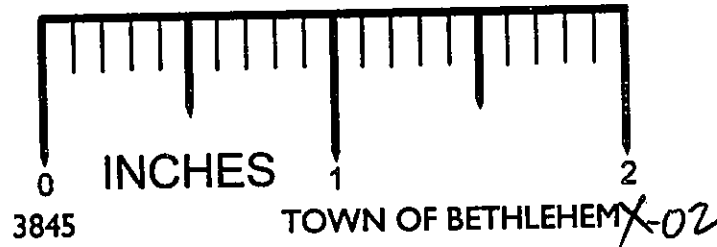
3) THE CONTRACTOR SHALL PERFORM ALL TRANSPLANTING OPERATIONS BEFORE CLEARING AND GRUBBING BEGINS AS SHOWN ON THE PLANS. AFTER CLEARING AND GRUBBING, THE CONTRACTOR SHALL STRIP 6 INCHES OF WETLAND TOPSOIL FROM THE SAME LOCATION. THE BASE, OR FLOOR OF THE NEW WETLANDS AS SHOWN ON THE PLANS, IS A FINISHED GRADE. THIS REQUIRES AN UNDERCUT, OF A DEPTH TO BE DETERMINED, AND THE SPREADING OF WETLAND TOPSOIL TO GRADE. IT IS PREFERABLE TO MOVE THIS MATERIAL DIRECTLY FROM ONE SITE TO THE NEW WETLAND, BUT STOCKPILING WILL BE PERMITTED. THE LOCATION AND SIZE OF THE STOCKPILES MUST BE PRE-APPROVED. WETLAND TOPSOIL IN AN UNWORKABLE CONDITION DUE TO EXCESSIVE MOISTURE, FROST, OR OTHER CONDITIONS SHALL NOT BE PLACED UNTIL IT IS SUITABLE FOR SPREADING. IMMEDIATELY AFTER SPREADING, THE SURFACE SHALL BE BROUGHT TO ITS FINAL SHAPE. BIO–FILTERS WILL BE SEEDED WITH ENVIRONMENTAL SEED MIX AT 20 LBS/ACRE. CERTAIN PLANTING ZONES WILL BE UNDERSEED AS OUTLINED IN ADDITIONAL PLANTING NOTES BELOW.

4) HAUL ROADS WILL BE NEEDED TO CONSTRUCT THE NEW WETLANDS AND REMOVE SPOIL MATERIAL. ANY SECTION OF THESE ROADS WITHIN THE WETLAND AREAS, AND OTHER AREAS AS DETERMINED BY THE ENGINEER, SHALL BE SCARIFIED BEFORE SPREADING THE WETLAND TOPSOIL.

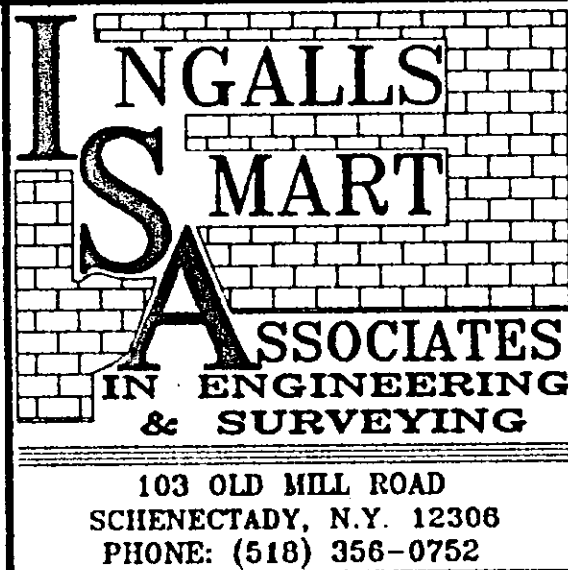
5) ALL WETLAND PLANTINGS SHALL BE LAID OUT IN A RANDOM MANNER AS WOULD OCCUR IN THE NATURAL ENVIRONMENT.

6) ADDITIONAL PLANTING NOTES.

- MOW SHRUB/SCRUB VEGETATION FROM AREAS TO BE GRADED BEFORE STRIPPING TOPSOIL.
- EXCAVATE ALL PROPOSED WETLAND MITIGATION AREAS ACCORDING TO GRADING PLAN AND TYPICAL CROSS SECTIONS (SHEET 7 OF 7).
- STRIP AND STOCKPILE WETLAND TOPSOIL BEFORE GRADING. SPREAD 6" MINIMUM ON ALL DISTURBED AREAS EXCEPT BELOW 3' WATER DEPTH IN PONDED AREAS.
- FW AND SSW–ZONE 2 PLANTING AREAS TO BE UNDERSEED WITH ENVIRONMENTAL SEED MIX @ 15 LBS/ACRE.
- EW–ZONE A AREAS TO BE UNDERSEED WITH WETLAND HUMMOCK SEED MIX @ 4 LBS/ACRE.
- HERBACEOUS, SHRUB AND TREE PLANTING AREAS ARE GENERAL AND MUST BE CONFIRMED IN FIELD BY THE ENGINEER OR LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM TIME OF INSTALLATION.
- PRESERVE MAJOR WHITE PINE GROVES BY CAREFUL GRADING IN ALL MITIGATION AREAS AS BY ENGINEER OR LANDSCAPE ARCHITECT IN FIELD.
- PLANT SYMBOLS ON PLANS ARE KEYED TO PLANTING GROUPS THAT CORRESPOND TO WETLAND ZONES. FOR EXAMPLE, THE SYMBOL: SSW–ZONE 2–10 MEANS 10 OF EACH PLANT IN THE GROUP WITHIN THAT AREA, AS DIRECTED BY ENGINEER OR LANDSCAPE ARCHITECT.
- CONFORM WITH AMERICAN ASSOCIATION OF NURSERYMEN FOR ALL WOODY PLANT MATERIAL STANDARDS.
- MITIGATION AREAS THAT DO NOT HAVE ANY PLANTINGS DESIGNATED WILL BE ALLOWED TO RE–VEGETATE NATURALLY FROM SEED AND ROOTSTOCK CONTAINED WITHIN THE 6 INCH BAND OF WETLAND TOPSOIL.
- TRANSPLANT MATERIAL AT THE DISCRETION OF THE ENGINEER OR LANDSCAPE ARCHITECT IN FIELD AND PROTECT APPROPRIATELY DURING INTERIM BEFORE FINAL PLACEMENT.
- ALL MITIGATION AREAS SHALL BE MONITORED AT LEAST ONCE DURING EACH GROWING SEASON IN ACCORDANCE WITH ACOE PERMIT CONDITIONS AND WETLAND MITIGATION REPORT.
- POTENTIAL NURSERY PLANT SOURCE: SOUTHERN TIER CONSULTING, INC. (OR EQUIVALENT) 2677 ROUTE 305, P.O. BOX 30 WEST CLARKSVILLE, NY 14786 (716) 968–3120 3122 (FAX) (800) 848–7614 (ORDERS)



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NOTES
WETLAND MITIGATION AREAS
HASWELL FARM SUBDIVISION
TOWN OF BETHLEHEM
COUNTY OF ALBANY STATE OF NEW YORK