MISCELLANEOUS NOTES AND REFERENCES:

1. WETLAND DELINEATION SHOWN AS ◈ BY HAINES HYDROGEOLOGIC CONSULTING, 141 OLD ENFIELD RD., BELCHERTOWN, MA 01007, 413-323-7156. THAT DELINEATION WAS LOCATED BY SURVEY BY THIS OFFICE IN OCTOBER AND NOVEMBER OF 2014.

2. WETLAND DELINEATION INDICATED BY ◈ PERFORMED BY LEC ENVIRONMENTAL, 74 ELM ST., WORCESTER, MA AND IS DERIVED FROM PLANS TITLED "SOUTH HADLEY LANDFILL 12 INDUSTRIAL DRIVE, SOUTH HADLEY, MA 01075" DATED 9/18/09 REVISED THROUGH 12/14/09 (SHEETS C-1 THROUGH C-7) BY LYNNFIELD ENGINEERING, INC. 199 NEWBURY ST., DANVERS, MA 01923.

3. TOPOGRAPHY IS FROM THE ABOVE REFERENCED PLANS BY LYNNFIELD ENGINEERING, INC. SUPPLEMENTED BY A TOTAL STATION SURVEY ALONG THE PROPOSED PIPELINE ROUTE BY THIS OFFICE.

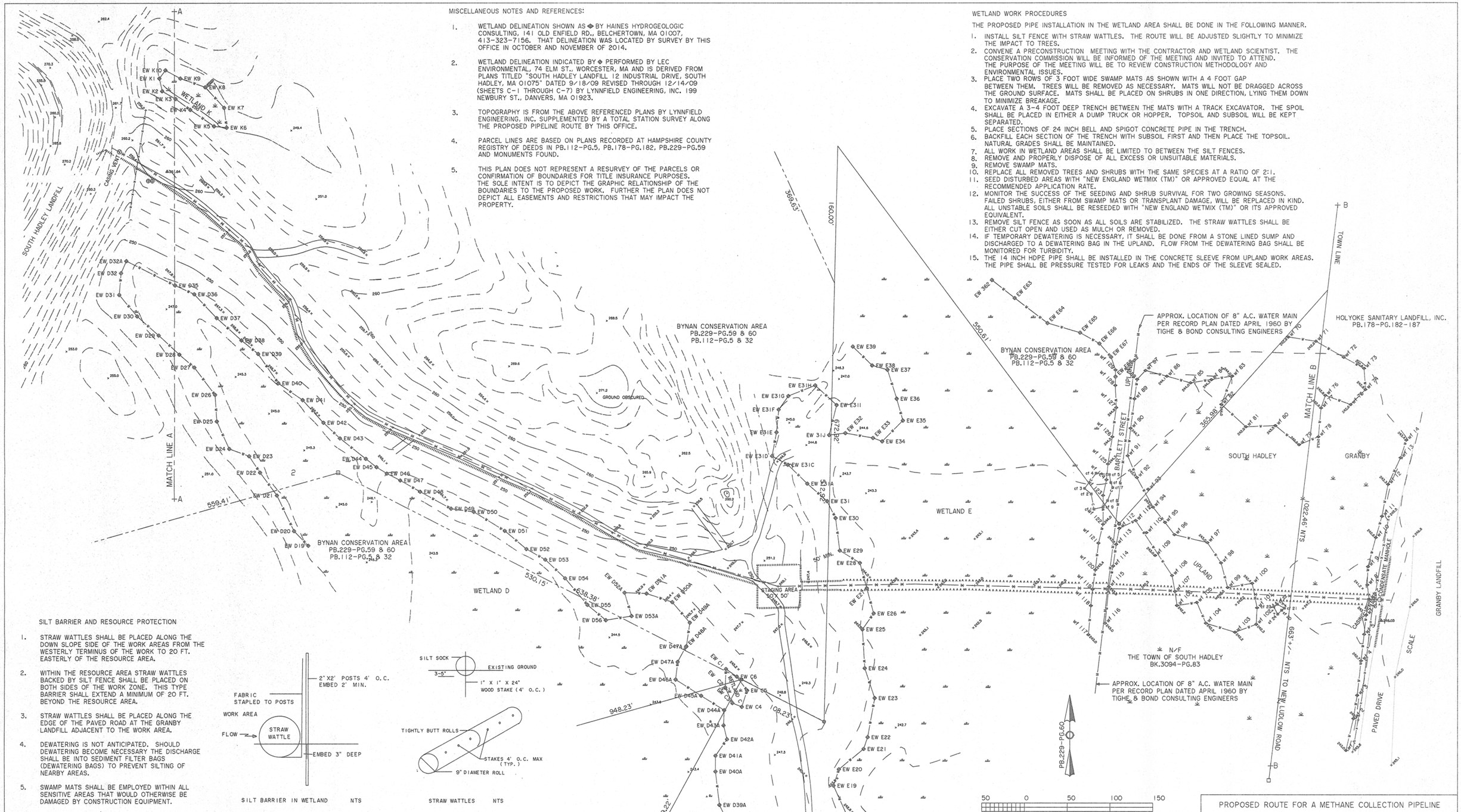
4. PARCEL LINES ARE BASED ON PLANS RECORDED AT HAMPSHIRE COUNTY REGISTRY OF DEEDS IN PB.112-PG.5, PB.178-PG.182, PB.229-PG.59 AND MONUMENTS FOUND.

5. THIS PLAN DOES NOT REPRESENT A RESURVEY OF THE PARCELS OR CONFIRMATION OF BOUNDARIES FOR TITLE INSURANCE PURPOSES. THE SOLE INTENT IS TO DEPICT THE GRAPHIC RELATIONSHIP OF THE BOUNDARIES TO THE PROPOSED WORK. FURTHER THE PLAN DOES NOT DEPICT ALL EASEMENTS AND RESTRICTIONS THAT MAY IMPACT THE PROPERTY.

WETLAND WORK PROCEDURES

THE PROPOSED PIPE INSTALLATION IN THE WETLAND AREA SHALL BE DONE IN THE FOLLOWING MANNER.

1. INSTALL SILT FENCE WITH STRAW WATTLES. THE ROUTE WILL BE ADJUSTED SLIGHTLY TO MINIMIZE THE IMPACT TO TREES.
2. CONVENE A PRECONSTRUCTION MEETING WITH THE CONTRACTOR AND WETLAND SCIENTIST. THE CONSERVATION COMMISSION WILL BE INFORMED OF THE MEETING AND INVITED TO ATTEND. THE PURPOSE OF THE MEETING WILL BE TO REVIEW CONSTRUCTION METHODOLOGY AND ENVIRONMENTAL ISSUES.
3. PLACE TWO ROWS OF 3 FOOT WIDE SWAMP MATS AS SHOWN WITH A 4 FOOT GAP BETWEEN THEM. TREES WILL BE REMOVED AS NECESSARY. MATS WILL NOT BE DRAGGED ACROSS THE GROUND SURFACE. MATS SHALL BE PLACED ON SHRUBS IN ONE DIRECTION, LYING THEM DOWN TO MINIMIZE BREAKAGE.
4. EXCAVATE A 3-4 FOOT DEEP TRENCH BETWEEN THE MATS WITH A TRACK EXCAVATOR. THE SPOIL SHALL BE PLACED IN EITHER A DUMP TRUCK OR HOPPER. TOPSOIL AND SUBSOIL WILL BE KEPT SEPARATED.
5. PLACE SECTIONS OF 24 INCH BELL AND SPIGOT CONCRETE PIPE IN THE TRENCH.
6. BACKFILL EACH SECTION OF THE TRENCH WITH SUBSOIL FIRST AND THEN PLACE THE TOPSOIL. NATURAL GRADES SHALL BE MAINTAINED.
7. ALL WORK IN WETLAND AREAS SHALL BE LIMITED TO BETWEEN THE SILT FENCES.
8. REMOVE AND PROPERLY DISPOSE OF ALL EXCESS OR UNSUITABLE MATERIALS.
9. REMOVE SWAMP MATS.
10. REPLACE ALL REMOVED TREES AND SHRUBS WITH THE SAME SPECIES AT A RATIO OF 2:1.
11. SEED DISTURBED AREAS WITH "NEW ENGLAND WETMIX (TM)" OR APPROVED EQUAL AT THE RECOMMENDED APPLICATION RATE.
12. MONITOR THE SUCCESS OF THE SEEDING AND SHRUB SURVIVAL FOR TWO GROWING SEASONS. FAILED SHRUBS, EITHER FROM SWAMP MATS OR TRANSPLANT DAMAGE, WILL BE REPLACED IN KIND. ALL UNSTABLE SOILS SHALL BE RESEEDED WITH "NEW ENGLAND WETMIX (TM)" OR ITS APPROVED EQUIVALENT.
13. REMOVE SILT FENCE AS SOON AS ALL SOILS ARE STABILIZED. THE STRAW WATTLES SHALL BE EITHER CUT OPEN AND USED AS MULCH OR REMOVED.
14. IF TEMPORARY DEWATERING IS NECESSARY, IT SHALL BE DONE FROM A STONE LINED SUMP AND DISCHARGED TO A DEWATERING BAG IN THE UPLAND. FLOW FROM THE DEWATERING BAG SHALL BE MONITORED FOR TURBIDITY.
15. THE 14 INCH HDPE PIPE SHALL BE INSTALLED IN THE CONCRETE SLEEVE FROM UPLAND WORK AREAS. THE PIPE SHALL BE PRESSURE TESTED FOR LEAKS AND THE ENDS OF THE SLEEVE SEALED.




SILT BARRIER AND RESOURCE PROTECTION

1. STRAW WATTLES SHALL BE PLACED ALONG THE DOWN SLOPE SIDE OF THE WORK AREAS FROM THE WESTERLY TERMINUS OF THE WORK TO 20 FT. EASTERLY OF THE RESOURCE AREA.

2. WITHIN THE RESOURCE AREA STRAW WATTLES BACKED BY SILT FENCE SHALL BE PLACED ON BOTH SIDES OF THE WORK ZONE. THIS TYPE BARRIER SHALL EXTEND A MINIMUM OF 20 FT. BEYOND THE RESOURCE AREA.

3. STRAW WATTLES SHALL BE PLACED ALONG THE EDGE OF THE PAVED ROAD AT THE GRANBY LANDFILL ADJACENT TO THE WORK AREA.

4. DEWATERING IS NOT ANTICIPATED. SHOULD DEWATERING BECOME NECESSARY THE DISCHARGE SHALL BE INTO SEDIMENT FILTER BAGS (DEWATERING BAGS) TO PREVENT SILTING OF NEARBY AREAS.

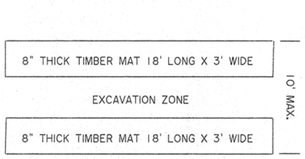
5. SWAMP MATS SHALL BE EMPLOYED WITHIN ALL SENSITIVE AREAS THAT WOULD OTHERWISE BE DAMAGED BY CONSTRUCTION EQUIPMENT.




SILT BARRIER IN WETLAND NTS




STRAW WATTLES NTS




TYPICAL SWAMP (CRANE) MAT PLACEMENT DETAIL IN WETLAND NTS

| LEGEND | |
|---|---|
| ⊕ | IRON PIN FOUND |
| □ | CONC. BOUND FOUND |
| ⊕ | MONITORING WELL |
| ⊙ | CONDENSATE MANHOLE |
| ⊗ | CASING VENT |
| ◈ | WETLAND FLAG BY LEC |
| ◈ | WETLAND FLAG BY HHC |
| ⚘ | WETLAND |
| △ | BENCH MARK (N/F) |
| +XXXX | SPOT ELEVATION |
| ⊠ | SENSITIVE PLANTS |

| LEGEND | |
|---|---|
| | CONTOUR (2 FT.) |
| —W—W— | WETLAND LIMIT |
| | SILT BARRIER (SEE DET.) |
| | STRAW WATTLES |
| —X—X—X— | FENCE |
| —M—M— | PROPOSED PIPELINE |
| | PARCEL LINE |
| | TOWN LINE |
| | EDGE OF PAVEMENT |
| | CART PATH |
| —C—C— | SENSITIVE PLANT ZONE |
| —M—M— | A.C. WATER MAIN |

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ROBERT H. LeMAITRE
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CIVIL
No. 36183
REGISTERED PROFESSIONAL ENGINEER

Robert H. LeMaitre

PROPOSED ROUTE FOR A METHANE COLLECTION PIPELINE

IN

SOUTH HADLEY & GRANBY, MASSACHUSETTS

PREPARED FOR

IPS-SOUTH HADLEY, INC. & INDUSTRIAL POWER SERVICES CORP.

1" = 50' JULY 15, 2015


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