

SPECIFICATIONS

PIPE & FITTINGS

- A. PVC PIPE AND FITTINGS:
 - POLYVINYL CHLORIDE (PVC) NON-PRESSURE PIPE.
 - 1. ASTM D 3034, SDR 35, TYPE PSM WITH ELASTOMERIC GASKETED JOINTS.
 - 2. JOINTS: ASTM 3212.
 - 3. GASKETS: ASTM 477, ELASTOMERIC SEAL.
- B. ADAPTERS:
 - FERNCO OR APPROVED EQUIVALENT.
 - 1. FITTING SELECTED PER PIPE TRANSITION CONDITION.
- C. INSTALLATION:
 - 1. INSTALL IN A TRENCH PREPARED IN ACCORDANCE WITH THE TRENCH DETAIL.
 - 2. SET PIPE AND FITTING IN STRICT ACCORDANCE WITH THE STIPULATIONS INSTALL FORTH BY THE MANUFACTURER.
 - 3. INSTALL PIPE AS SHOWN ON PLANS.
 - 4. DO NOT DEFLECT PIPE MORE THAN THAT RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.

ASPHALT CONCRETE PAVING

- A. COMPLY WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS CONSTRUCTION AND MATERIALS – NEW YORK STATE DEPARTMENT OF TRANSPORTATION SECTION 403.
- B. ASPHALT PAVEMENT TOP COURSE:
MEETING NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR TOP COURSE TYPE 7.
- C. ASPHALT PAVEMENT BASE COURSE:
MEETING NEW YORK DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR BINDER COURSE TYPE 4.
- D. DO NOT PAVE WHEN BASE SURFACE IS WET OR CONTAINS EXCESS MOISTURE OR WHEN THE GROUND IS FROZEN. DO NOT PAVE WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 45 DEGREES FAHRENHEIT. DO NOT PAVE DURING RAIN OR SNOW. PROOF ROLL PREPARED SUBGRADE PRIOR TO PAVING. PLACE EACH COURSE AT THICKNESS SO THAT WHEN COMPACTED IT WILL CONFORM TO EXISTING GRADES, CROSS SECTIONS, AND FINISHED SURFACES AS SHOWN ON THE PLANS.
- E. PROVIDE SUFFICIENT ROLLERS TO OBTAIN THE REQUIRED DENSITY. ROLL AS SOON AS POSSIBLE AFTER PAVING WITHOUT CAUSING PAVEMENT DISPLACEMENT. PERFORM FINISH ROLLING WHILE MIXTURE IS STILL WARM ENOUGH TO REMOVE MARKS FROM STEEL ROLLER AND CONTINUE UNTIL MARKS ARE ELIMINATED.
- F. COMPLY WITH THE NYS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DETAILS AND COMPACTION.
- G. APPLY A TACK COAT TO ALL VERTICAL SURFACES TO BE PAVED AGAINST. COMPLY WITH NYSDOT SPECIFICATION SECTION 407.

EARTHWORK

1. **EXCAVATION:** AREAS TO BE CUT SHALL BE DONE IN ACCORDANCE WITH THE DETAILS AND /OR SECTIONS SHOWN ON THE DRAWINGS. MATERIAL TAKEN FROM CUT AREAS MAY BE USED IN AREAS WHERE FILL IS REQUIRED EXCEPT IN SLOPE DRAIN TRENCHES OR IN AREAS OF GRAVEL DRAINAGE. MATERIAL EXCAVATED/SCARIFIED MATERIAL WHICH IS NOT ACCEPTABLE AS FILL OR BACKFILL MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF.
2. **FILL:** FILL MATERIAL SHALL BE SOIL CLASSIFICATION GROUPS FOR SAND, GRAVEL, SILT, CLAY AND ANY COMBINATION OF THESE GROUP SYMBOLS. FILL MATERIAL SHALL BE FREE OF FROZEN MATERIAL AND SHALL BE APPROVED BY THE ENGINEER. REMOVED MATERIALS OF ANY SORT AND DEBRIS SHALL BE REMOVED FROM THE GROUND SURFACE BEFORE PLACING FILLS AND/OR THE DRAINAGE BLANKET. BREAK-UP SLOPED SURFACES SO FILL MATERIAL WILL BOND WITH EXISTING MATERIAL. CONSTRUCT THE GRAVEL DRAINAGE BLANKET AS SHOWN ON THE PLANS.
3. **GRADING:** UNEXISTING GRADE FINISHED AREAS TO THE GRADES SHOWN ON THE PLANS. PROVIDE A SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES. SHAPE AND GRADE DITCH LINES AS SHOWN ON THE DRAWINGS. GRADE ALL AREAS DISTURBED BY THE CONTRACTOR'S ACTIVITIES TO THE GRADE SHOWN ON THE PLANS OR TO THE CONDITION OF THE AREA PRIOR TO COMMENCING WORK.

SLOPE DRAINS:

- A. CONSTRUCT SLOPE DRAINS AS SHOWN ON THE PLANS. SLOPE DRAINS SHALL BE CONSTRUCTED AT 20 FOOT INTERVALS.
- B. SLOPE DRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PERFORATED PIPE.
- C. INSTALL PIPE IN SUCH A MANNER THAT THE PIPE WILL HAVE A GENERALLY UNIFORM SLOPE TO THE SLOPE DRAIN HEADER PIPE TO DAYLIGHT AS SHOWN ON THE PLANS.
- D. DO NOT BACKFILL SLOPE DRAINS IN SUCH A MANNER THAT WILL CAUSE THE PIPE TO BE CRUSHED OR FLATTENED. PROTECT SLOPE DRAINS AT ALL TIMES.
- E. CONNECT SLOPE DRAINS TO THE HEADER PIPE AS SHOWN ON THE PLANS.
- F. SLOPE DRAINS SHALL BE INSTALLED PRIOR TO PLACEMENT OF FILL.
- G. ALL FILL SHALL BE PLACED IN LIFTS OF 18" OR LESS STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP THE SLOPE. EACH LIFT SHALL BE COMPACTED BY A MINIMUM OF 7 PASSES OF STATIC SHEEFOOT ROLLER RATED AT 15 TONS OR LARGER.
- H. DO NOT DAMAGE OBSERVATION WELLS WHEN PLACING FILL OR REMOVING SLOPE MATERIAL.
- I. THE GEOTECHNICAL REPORT ENTITLED "SLOPE STABILITY REPORT FOR TOWN CENTER SHOPPING CENTER BETHLEHEM N.Y." PREPARED BY DANIEL G. LOUCKS, P.E., DATED 8 AUGUST 2008 SHALL BE REFERRED TO AND MADE A PART OF THIS PLAN SET. THE REPAIR IS SUPPLEMENTAL TO WORK SPECIFIED ELSEWHERE AND IF IN CONFLICT THE MORE STRINGENT REQUIREMENTS SHALL APPLY.

SEEDING:

SEE GENERAL EROSION & SEDIMENT CONTROL PLAN NOTES ON SHEET 6.

TRAFFIC MAINTENANCE

- A. MAINTAIN TRAFFIC FLOW AT ALL TIMES DURING THE WORK.
1. COMPLY WITH ALL STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.
2. PROVIDE A MINIMUM OF ONE WAY TRAFFIC ON STREET AT ALL TIMES.
3. DO NOT OPEN UP MORE THAN ONE END OF STREET AT ONE TIME. BACKFILL BEFORE OPENING REMAINING ONE HALF."
4. DO NOT OBSTRUCT DRIVEWAYS, WALKWAYS AND OTHER PASSAGEWAYS FOR LONG PERIODS OF TIME OR OVERNIGHT.
5. NO DRIVEWAY SHALL BE OBSTRUCTED AT THE END OF THE WORK DAY.
6. NOTIFY LOCAL FIRE, POLICE AND AMBULANCE AGENCIES 24 HOURS PRIOR TO EXCAVATION ACROSS STREETS.
7. HIGHWAY PERMITS MUST BE OBTAINED BY THE CONTRACTOR.
8. THE CONTRACTOR SHALL ACCOMMODATE TRAFFIC AT ALL TIMES AND IN ACCORDANCE WITH DELIVERY SCHEDULES FOR THE COMPLEX. COORDINATE ROADWAY CLOSURE WITH TRUCKER, ROADWAY CLOSURE WILL BE ALLOWED WHEN APPROVED BY THE OWNER AND WHEN IT WILL NOT INTERFERE WITH DELIVERIES.
9. TRAFFIC SHALL BE MAINTAINED IN COMPLIANCE WITH THE REQUIREMENTS OF NYSDOT ITEM 619.01, BASIC MAINTENANCE & PROTECTION OF TRAFFIC

TRENCHING, BACKFILLING & COMPACTING

- A. PERFORM ALL EXCAVATION, BACKFILLING AND COMPACTING FOR CONSTRUCTION OF THE UTILITIES AND APPURTENANCES. COMPLY WITH ALL THE APPLICABLE STIPULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND MYS DEPARTMENT OF LABOR INDUSTRIAL CODE 23
- B. MAINTAIN TRENCHES AND KEEP SIDES OF EXCAVATION FROM SLIDES AND CAVE-INS. USE METHODS INCLUDING, BUT NOT LIMITED TO, TEMPORARY SHEETING, SHORING, BRACING, CRIBBING AND TRENCH BOX. KEEP EXCAVATION FREE FROM WATER BY; BUT NOT LIMITED TO, GRAVITY FLOW, PUMPING, WELL POINT SYSTEMS. DISCHARGE WATER TO NATURAL WATER COURSES AND AWAY FROM THE WORK. DO NOT ALLOW DISCHARGE TO CAUSE EROSION.
- C. TRIM AND SHAPE TRENCH BOTTOM TO RECEIVE PIPE AT CORRECT LINE AND GRADE. SHAPE AND GRADE TRENCH TO PROVIDE A UNIFORM CONTINUOUS SUPPORT ALONG THE ENTIRE LENGTH OF THE BARREL OF EACH PIPE SECTION. PLACE AND COMPACT BEDDING BELOW AND UP THE SIDES OF THE PIPE TO A PLANE AS SHOWN ON THE DRAWINGS. PLACE BEDDING IN LAYER OF 6" AND COMPACT TO 95% OF MAXIMUM DENSITY. AT OR BELOW OPTIMUM MOISTURE CONTENT.
- D. BACKFILL EXCAVATIONS WITH MATERIALS AS SHOWN ON THE DRAWINGS. DO NOT BACKFILL WITH FROZEN MATERIALS. PLACE BACKFILL IN MAXIMUM 6" THICK LAYER AND COMPACT TO 95% OF MAXIMUM DENSITY.
- E. NOTIFY ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO ANY EXCAVATION. REQUEST LOCATION OF ALL UTILITIES. MAINTAIN, SUPPORT AND SAVE FROM DAMAGE ALL PUBLIC UTILITIES. ALLOW REASONABLE TIME AND SPACE FOR OWNERS OF PRIVATE UTILITIES TO COOPERATE IN MAINTAINING THEIR FACILITIES.
- F. AFTER BACKFILLING, RESTORE SURFACES AND FACILITIES TO AS GOOD CONDITION OF BETTER THAN THEY WERE FOUND PRIOR TO THE WORK.
- G. BEDDING & PIPE ZONE FILL:
GRANULAR FILL APPROVED BY THE ENGINEER AND CONFORMING TO THE FOLLOWING GRADATION

<u>SIEVE DESIGNATION</u>	<u>% BY WEIGHT PASSING SQUARE OPENINGS</u>
3/4"	100
NO. 4	0-7

<u>SIEVE DESIGNATION</u>	<u>% BY WEIGHT PASSING SQUARE OPENINGS</u>
4"	100
2"	90-100
1/4"	30-65
NO. 40	5-40
NO. 200	0-10

- I. GRAVEL: (UNIFORMLY GRADED)
IMPORTED MATERIAL APPROVED BY THE ENGINEER CONFORMING TO THE N.Y.S.D.O.T.,
SECTION 304-2.02 TYPE 4 GRADATION:

<u>SIEVE DESIGNATION</u>	<u>% BY WEIGHT PASSING SQUARE OPENINGS</u>
2"	100
1/4"	30-65
NO. 40	5-40
NO. 200	0-10

CATCH BASINS:

- A. PRECAST, REINFORCED, CONCRETE STRUCTURES AS MANUFACTURED BY FORT MILLER OR APPROVED EQUIVALENT AS FOLLOWS:
1. CONCRETE LOAD: AASHTO H-20.
 2. CONCRETE STRENGTH: 2000 psi.
 3. FRAME AND COVER: AS SHOWN ON THE PLANS.
 4. REINFORCED STEEL: ASTM A615- GRADE 60.
 5. AIR ENTRAINED: 5.5% TO 9.5%.
 6. STEPS: POLYPROPYLENE COATED STEEL - MA INDUSTRIES PS-2-PF
 7. JOINT SEALS: BUTYL RUBBER.

- B. INSTALL AS SHOWN ON THE PLANS, COMPACT ALL AROUND STRUCTURE 95% MODIFIED PROCTOR.

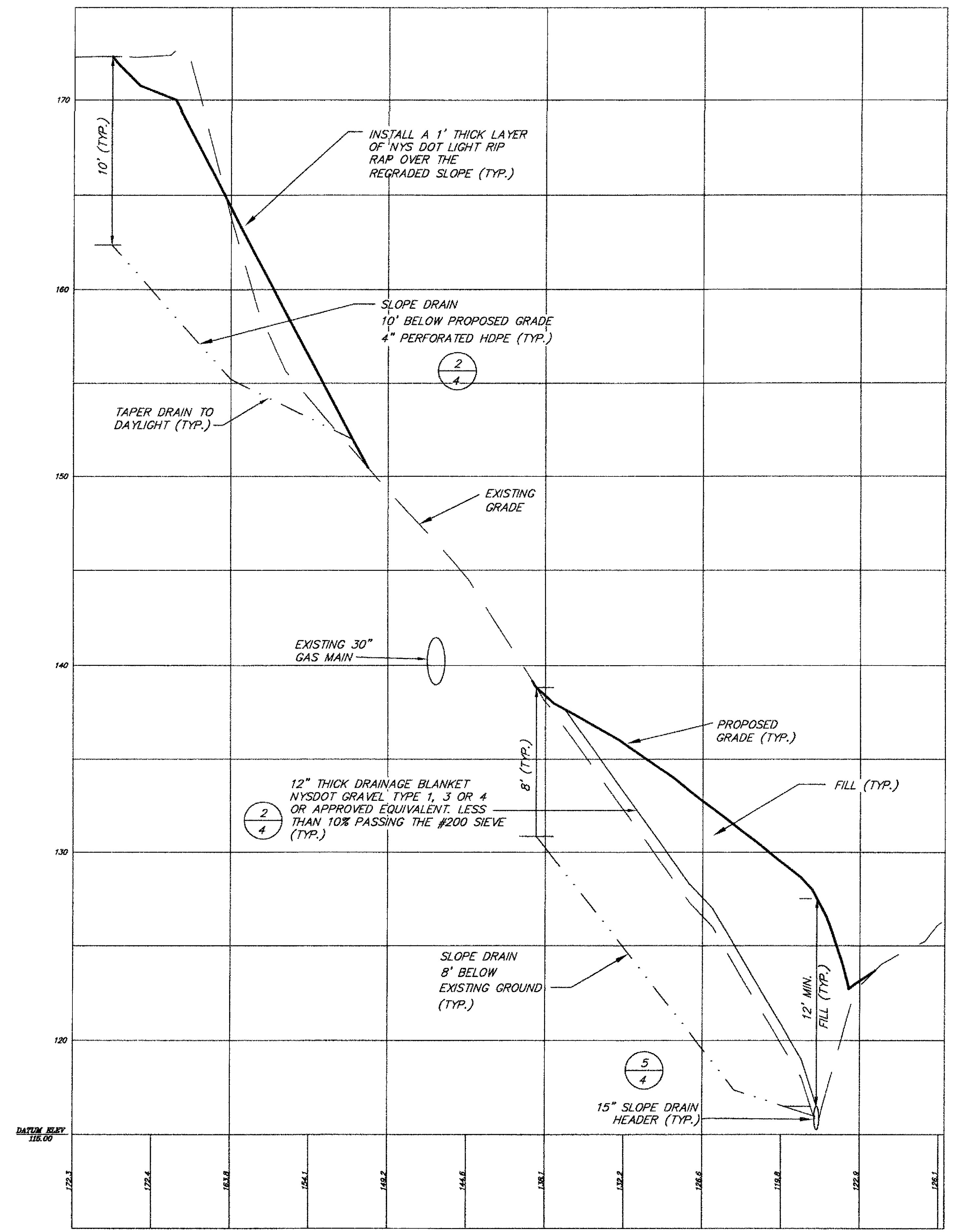
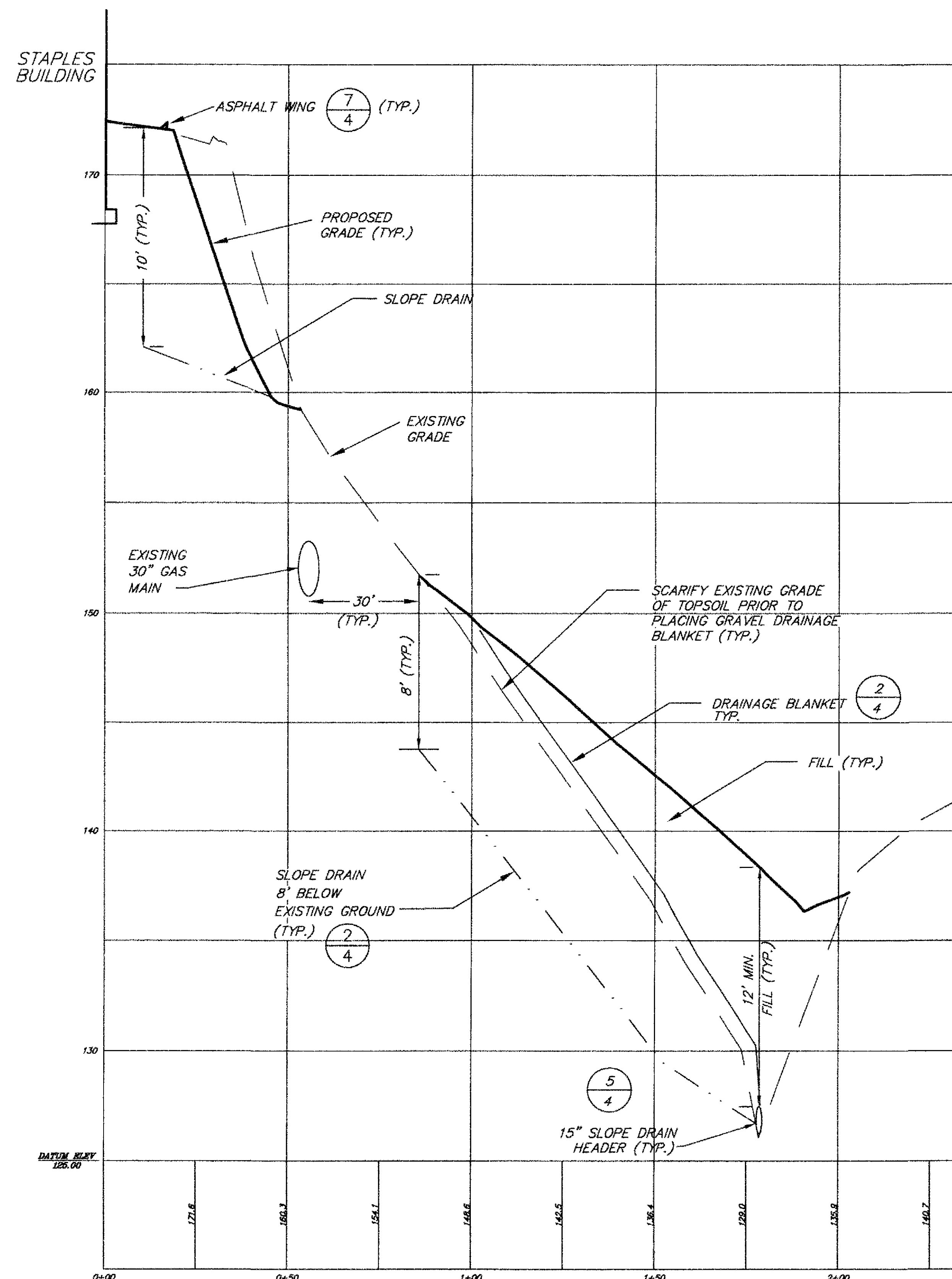
EXISTING MONITORING WELLS AND INCLINOMETERS


- A. DO NOT DISTURB EXISTING MONITORING WELLS AND INCLINOMETERS.
- B. MONITOR GROUND WATER LEVELS IN THE WELLS DURING CONSTRUCTION. IF THE GROUND WATER LEVEL IS HIGHER THAN 2 FEET BELOW THE GROUND SURFACE CONSTRUCTION SHALL BE STOPPED TEMPORARILY UNTIL THE GROUND WATER HAS LOWERED TO BELOW THIS LEVEL.
- C. THE INCLINOMETERS WILL BE MONITORED WEEKLY DURING CONSTRUCTION BY THE GEOTECHNICAL ENGINEER, FOR POSSIBLE MOVEMENT.

GENERAL NOTES :

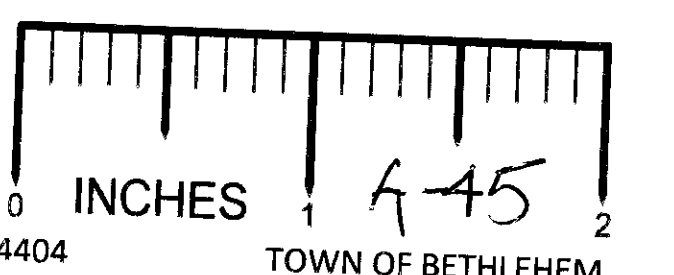
3. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH APPLICABLE TOWN OF BETHLEHEM STANDARDS AND WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, STANDARDS ORDINANCES, RULES AND REGULATIONS.
2. EXISTING WATER UTILITIES SHOWN HEREIN WERE OBTAINED FROM THE AVAILABLE RECORD DRAWINGS AND EVIDENCE IN THE FILED. THE LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE. THEIR ACTUAL LOCATION SHALL BE VERIFIED BY THE CONTRACTOR BY CONTACTING THE UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION AND MUNICIPAL AGENCIES HAVING JURISDICTION, SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATING AND/OR CONSTRUCTION. (1--800--962--7992).
3. CONSTRUCTION OF ALL PROPOSED UTILITIES MUST BEGIN AT ITS POINT OF CONNECTION TO THE EXISTING UTILITY OR AT THE LOWEST POINT IN THE SYSTEM. RIMS, GRATES, INVERTS, CLEARANCES AND DELEGATION AT CROSSINGS MUST BE VERIFIED PRIOR TO THE BEGINNING OF CONSTRUCTION. THE ENGINEER MUST BE NOTIFIED AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF ANY INSTALLATION, TO BE ABLE TO PROVIDE RESERVATION AS REQUIRED. THE CONTRACTOR MUST KEEP A RECORD OF ALL UNDERGROUND UTILITIES INSTALLED AND ENCOUNTERED SO THE ENGINEER WOULD BE ABLE TO USE THE RECORDS FOR THE PREPARATION OF RECORD DRAWINGS AS REQUIRED BY THE OWNER.
4. WHEN CROSSING EXISTING UTILITIES WITH PROPOSED UTILITIES, CONTRACTOR SHALL COORDINATE SUCH CROSSINGS WITH THE RESPECTIVE MUNICIPAL AGENCIES AND UTILITY COMPANIES HAVING JURISDICTION OVER THE EXISTING UTILITIES.
5. ALL PROPOSED UTILITIES AND APPURTENANCES SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE LOCAL MUNICIPALITIES CODES AND REGULATIONS GOVERNING THE INSTALLATION OF SUCH UTILITIES.
6. THE ENGINEER RESERVES THE RIGHT TO EXAMINE ANY WORK DONE ON THIS PROJECT AT ANY TIME, TO DETERMINE THE CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, AS INTENDED AND INTERPRETED BY THE ENGINEER.
7. MISCELLANEOUS WORK NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS SUCH AS PATCHING, BLOCKING, TRIMMING, ETC., SHALL BE PERFORMED AS REQUIRED TO MAKE THE WORK COMPLETE, AND FUNCTIONAL.
8. ALL DISTURBED AREA SHALL RECEIVE TOPSOIL AND SEED, EXCEPT AS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL:
 - A. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
 - B. EXAMINE THE SITE AND INCLUDE IN HIS WORK THE EFFECT OF ALL EXISTING CONDITIONS OF THE WORK.
 - C. PROVIDE AND INSTALL ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH RECOGNIZED GOOD STANDARD PRACTICE.
 - D. HOLD THE OWNER HARMLESS AGAINST ANY AND ALL CLAIMS ARISING FROM WORK DONE BY THE CONTRACTOR AND HIS SUBCONTRACTORS
 - E. SECURE ALL PERMITS REQUIRED TO PERFORM THE WORK.
 - F. KEEP THE SITE OF THE WORK CLEAN AND ACCESSIBLE AT ALL TIMES
 - G. CONTROL DUST BY USING CALCIUM CHLORIDE AND OTHER ACCEPTABLE MEANS.
 - H. REPAIR, AT NO COST TO THE OWNER, ANY DAMAGE CAUSED BY HIS ACTIVITIES.
10. ALL BACKFILL USED IN TRENCHES WITHIN ROADWAY AREAS SHALL BE PLACED IN MAXIMUM SIX (6) INCH LIFTS AND COMPACTED BY MEANS OF A MECHANICAL COMPACTOR BETWEEN LIFTS.
11. WHEN BACKFILLING AROUND PROPOSED OR EXISTING STRUCTURES, MATERIAL SHALL BE PLACED IN MAXIMUM SIX (6) INCH LIFTS AND COMPACTED BY MEANS OF A MECHANICAL COMPACTOR BETWEEN LIFTS.
12. CONTRACTOR SHALL ADJUST RIM/TOP OF FRAME ELEVATIONS TO PROPOSED FINISHED GRADES FOR ALL UTILITIES LOCATED WITHIN LIMITS OF PROPOSED WORK.

13. CONTRACTOR MUST PROTECT ALL SURFACE WATERS FROM SILTATION DURING CONSTRUCTION WITH APPROPRIATE MEASURES INCLUDING, BUT NOT LIMITED TO PLACING HAY BALES ALONG SILTATION FENCING AROUND WORK. ALL MINIMUM, HAY BALE SLOTTED SILTATION FENCING SHALL BE PLACED AS SHOWN ON THE PLAN IN ALL DRAINAGE SWALES AT INTERVALS REQUIRED TO CONTROL SILTATION, UNTIL RIPRAP IS INSTALLED. AFTER RIPRAP IS INSTALLED, PROTECT RIPRAP FROM SILTATION.
14. ALL SEWER PIPE SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE PIPE MANUFACTURERS' WRITTEN INSTRUCTIONS.
15. CONTRACTOR IS ADVISED THAT CONSTRUCTION PROCEDURE AND MATERIALS TO BE USED FOR ALL WORK WILL HAVE TO COMPLY WITH THE WRITTEN SPECIFICATIONS AND STANDARDS OF THE DEPARTMENT OF THE CITY OF BIRMINGHAM. CONTRACTOR IS RESPONSIBLE FOR SECURING AND COMPLYING WITH THOSE RESPECTIVE WRITTEN SPECIFICATIONS AND STANDARDS.
16. CONTRACTOR SHALL MAINTAIN SIDEWALKS IN A SAFE MANNER TO ACCOMMODATE PEDESTRIAN TRAFFIC AT ALL TIMES.
17. SUBMIT SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. SUBMIT 4 COPIES. 2 COPIES WILL BE RETURNED. SUBMIT FOR ALL MATERIALS.

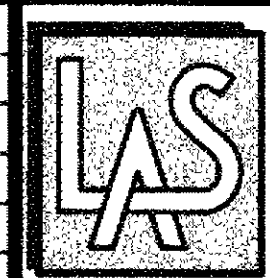



SECTION - B
 SCALE: 1" = 30' HORIZ.
 1" = 5' VERT.

2
5 SECTION - A
SCALE: 1" = 30' HORIZ.
1" = 5' VERT.



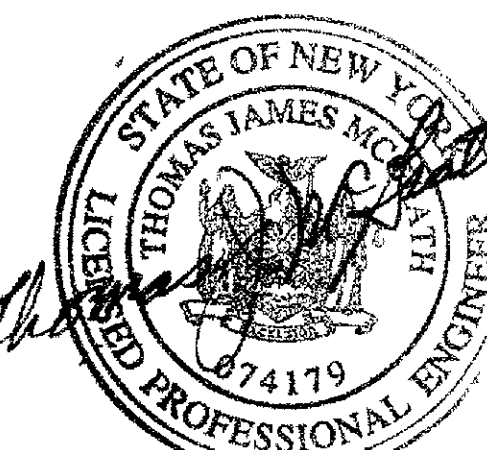
B	10/01/08	REVISED PER TOWN COMMENTS			MF
A	09/04/08	ISSUED FOR BIDDING			MF
Rev no	Date	Description			By
REVISIONS					


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DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____ T.J.M.
APPROVED BY: _____ T.M.
SCALE: _____ AS NOTED
DATE: AUGUST 20, 2008

BETHLEHEM TOWN CENTER II

NORTH SLOPE EARTH SLIDE SITE IMPROVEMENTS

PHASE 1 AND PHASE 2

NOTES-SPECIFICATIONS

N.Y.S. ROUTE 9W
COUNTY OF ALBANY

TOWN OF BETHLEHEM
STATE OF NEW YORK

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SHEET NUMBER

5

SHEET 5 OF 6

REV. NO.	DWG. NO.
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