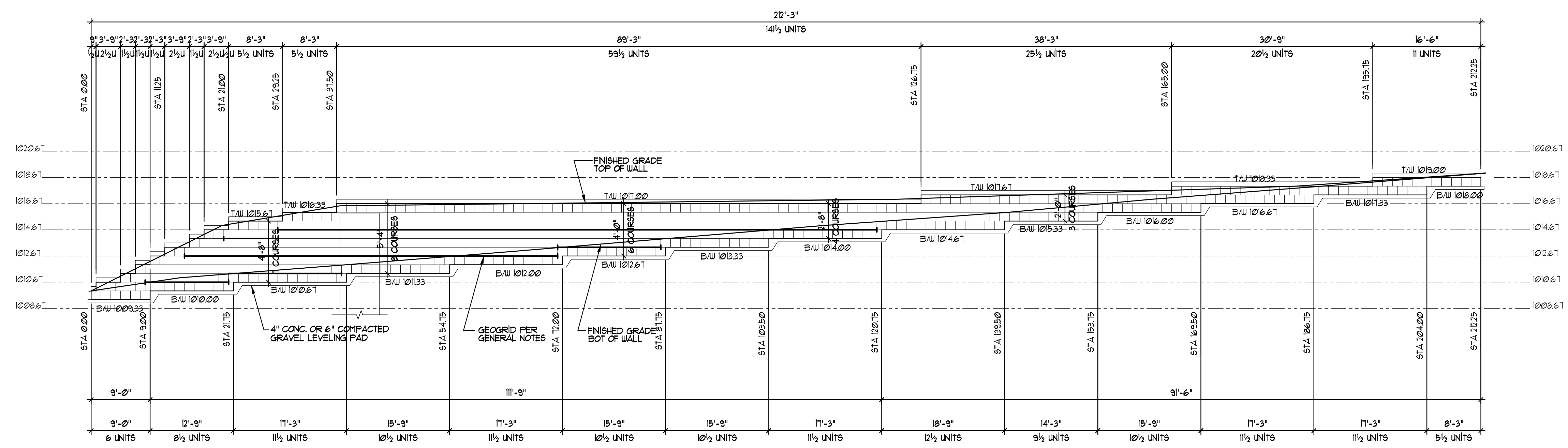


REINFORCED SOIL RETAINING WALL FOR:
WHATABURGER
1450 NE DOUGLAS STREET
LEE'S SUMMIT, MISSOURI

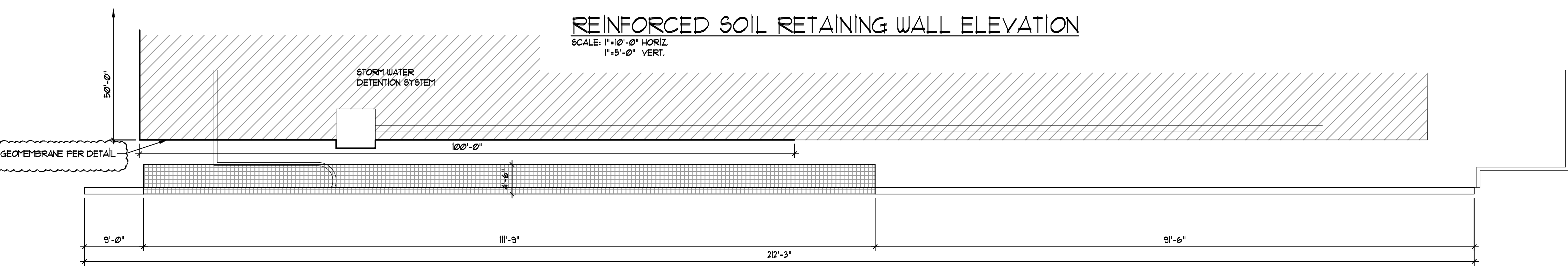
REINFORCED SOIL RETAINING WALL FOR:
BRUTUS
HARSCAPES

DATE: 06/08/2021
REVISED: 7/15/2021, 7/20/2021, 7/30/2021
JOB NO:
DRAIN BY: MEJ
DESIGNED BY: CHS

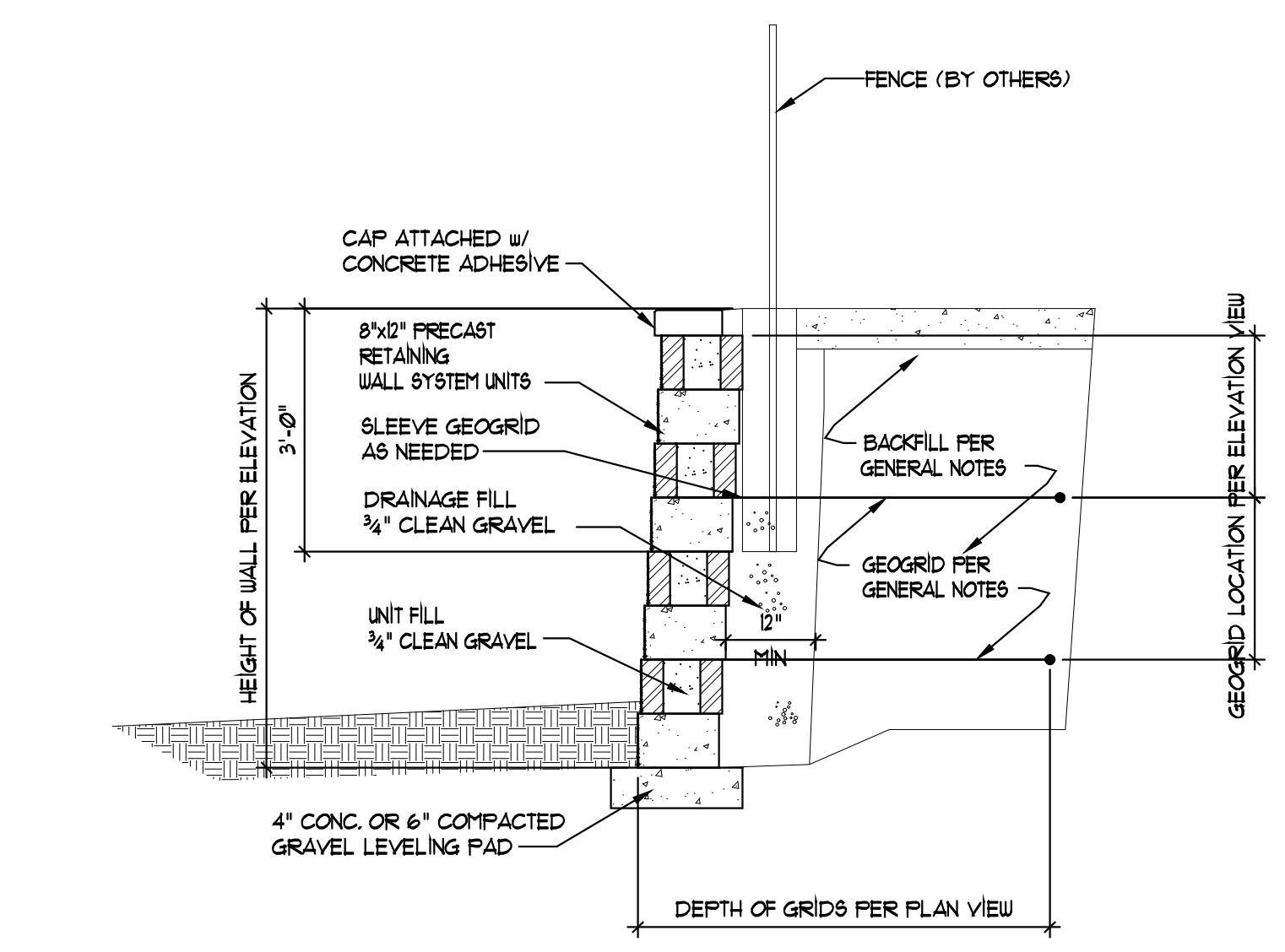
- RETAINING WALL GENERAL NOTES
- I. GENERAL REQUIREMENTS
- A. Design and construction work for this project shall conform to the requirements of the 2018 International Building Code.
- B. Design Loads:
- Retained Soil----- phi = 26 degrees
 - Live Load Surcharge----- 150 psf
 - Backslope----- 0 degrees
 - Applied Bearing Pressure----- 1500 psf
- C. Modular concrete facing units shall be Brutus Retaining Wall Units having a minimum 28 Day compressive strength of 3000 psi and a maximum moisture absorption of 8 percent.
- D. Drainage fill shall consist of free draining crushed stone, 3/8" to 3/4" or coarse gravel. No more than 5% shall pass the No. 200 sieve with a maximum size of 1". A minimum of 12 inches of drainage fill must extend behind the wall units to within 18 inches of final grade.
- E. Impervious fill shall consist of material having a minimum plasticity index of 10 and a maximum plasticity index of 30. No more than 10% particles shall be retained on the No. 4 sieve and no less than 20% shall pass the No. 200 sieve. 18 inches of impervious fill shall extend over the reinforced zone.
- F. Backfill shall consist of limestone screenings or crushed rock meeting the specifications of KDOT AB-3 dense aggregate base
- G. The geogrid shall be a high density polyethylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement. Geogrid shall be Stratagrid 200 as manufactured by Strata Systems, Inc. or Miragrid 3XT as manufactured by Mirafi Inc. or Raugrid 3/3-20 as manufactured by Luckenhaus North America, or Versa-Grid 3.0 as manufactured by Versa-Lok or H-2000 as manufactured by Geostar.
- H. Filter Fabric consist of Mirafi 140 N as manufactured by Mirafi, Inc. or C-35NW as manufactured by Synthetic Industries.
- J. Excavation shall be to the lines and grades shown on the construction drawings. Care shall be taken not to disturb embankment materials beyond lines shown.
2. FOUNDATION SOIL PREPARATION:
- A. Foundation soil shall be excavated as required for leveling pad per drawings.
- B. Foundation soil shall be examined by the Engineer of Record or Geotechnical Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength. Soils not meeting required strength shall be removed and replaced with acceptable material.
- C. Over-excavated areas shall be filled with approved compacted backfill material.
3. BASE LEVELING PAD:
- A. Leveling pad materials shall be placed as shown on the drawings, on undisturbed instu soils to a minimum thickness of 4 inches for concrete and 6" for sand or gravel type materials.
- B. Material shall be compacted so as to provide a level hard surface on which to place the first course of units. Compaction shall be 95% of standard proctor for sand or gravel type materials.
- C. Leveling pad shall be prepared to insure complete contact of retaining wall unit with base.
4. UNIT INSTALLATION:
- A. First course of concrete wall units shall be placed on the base leveling pad. The units shall be checked for level and alignment and in full contact with base.
- B. Units shall be placed side by side for full length of wall alignment. Alignment shall be done by means of a string line or offset from base line.
- C. The contractor shall follow manufacturer's installation instructions when making radius curves.
- D. Compact unit fill, drainage fill, and backfill. Excess material shall be swept from top of units to install next course, insuring the area between each unit is completely filled prior to proceeding to next course.
- E. Lay each course with the lip of the units placed against the back of the preceding course. Pull units forward as far as possible. Backfill and compact soil behind wall units.
5. GEOGRID INSTALLATION:
- A. The geogrid soil reinforcement shall be laid horizontally on compacted backfill on top of the concrete wall units. The next course of units shall be placed such that the geogrid is aligned to the backside and under the lip of the top units. Embed the geogrid a minimum of eight inches into the units. Pull geogrid taut and anchor prior to placing backfill.
- B. Slack in the geogrid at the wall unit connections shall be removed.
- C. Geogrid shall be laid at the proper elevation and orientation as shown on the drawings.
- D. Correct orientation (roll direction) of the geogrid shall be verified.
- E. To pretension geogrid, anchored geogrid shall be pulled taut to eliminate loose folds, and secured prior to and during backfill and compaction.
- F. In outside corners and radii provide a minimum of 3 inches of backfill or drainage fill between overlapping geogrid layers.
6. FILL PLACEMENT:
- A. Backfill material shall be placed in lifts and densely compacted to a minimum of 95% of materials maximum dry density as determined by ASTM D698 at or near optimum moisture content.
- B. Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.
- C. Backfill shall be placed from the wall rearward into the embankment to insure that the geogrid remains taut.
- D. Compact backfill within three feet of the back of the wall to prevent displacement of modular units.
- E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches shall be maintained to operate tracked vehicles over the geogrid. Turning of tracked vehicles shall be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
7. CAP INSTALLATION:
- A. Cap units shall be placed over preceding course and on a bed of construction adhesive, pulled forward, backfilled and compacted in place to finished grade.
8. PROTECTION OF WORK:
- A. At the end of each day's operation, slope backfill away from the facing to direct runoff away. Prevent runoff from adjacent areas from entering the retaining wall backfill.
- B. A minimum of three feet shall be maintained between the face of the retaining wall and the operation of heavy equipment.



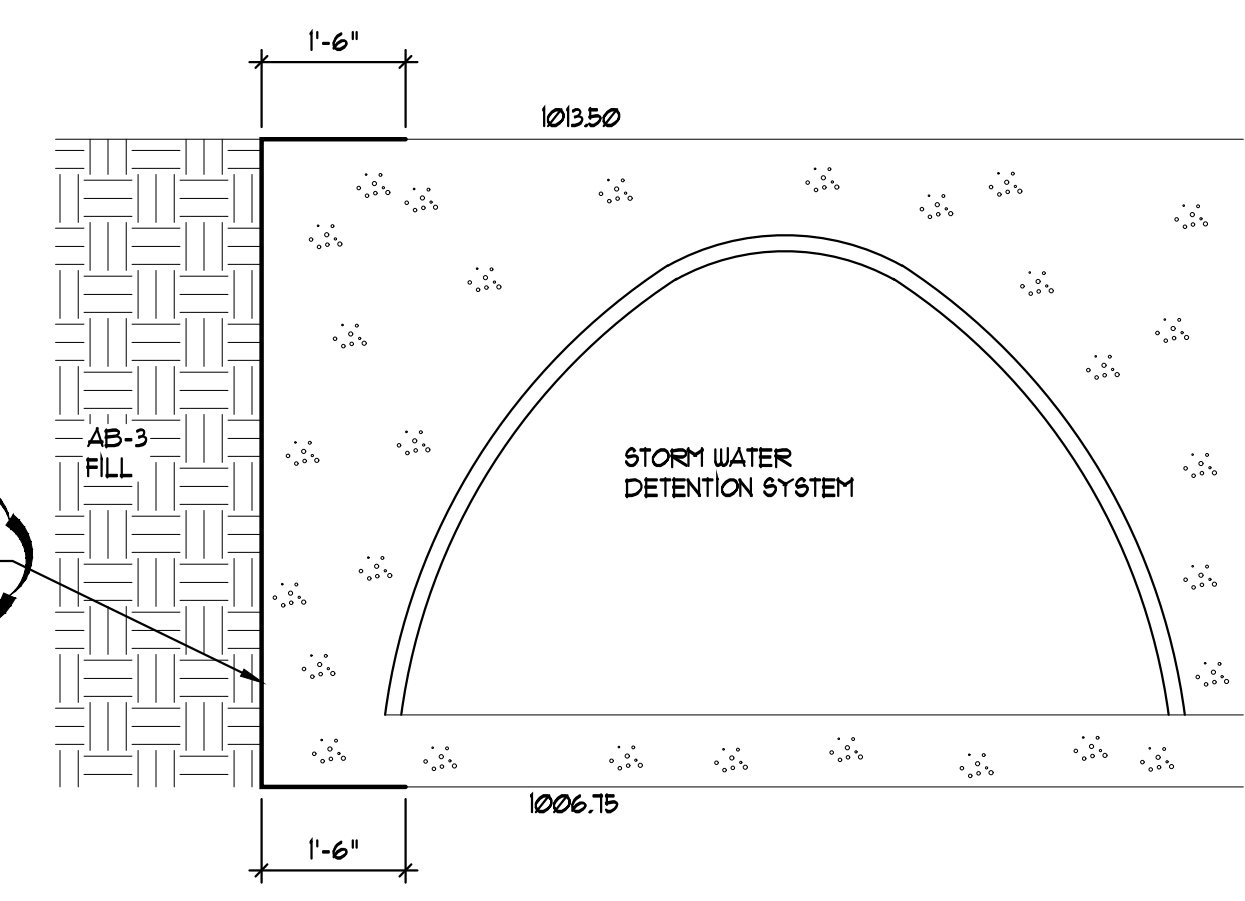
REINFORCED SOIL RETAINING WALL ELEVATION
SCALE: 1"=10'-0" HORIZ.
1"=5'-0" VERT.



REINFORCED SOIL RETAINING WALL PLAN
SCALE: 1"=10'-0"



REINFORCED SOIL RETAINING WALL SECTION
SCALE: 1/2" = 1'-0"



POND LINER DETAIL
SCALE: 1/2" = 1'-0"

NOTES:
INSTALLATION OF GEOMEMBRANE TO BE VERIFIED BY A 3RD PARTY INSPECTOR.
DAMAGED GEOMEMBRANE TO BE REPAIRED PER MANUFACTURER RECOMMENDATIONS OR WITH CONTACT CEMENT AND EXTRA LINER STRIPE APPLIED TO BOTH SIDES OF THE DAMAGED AREA.