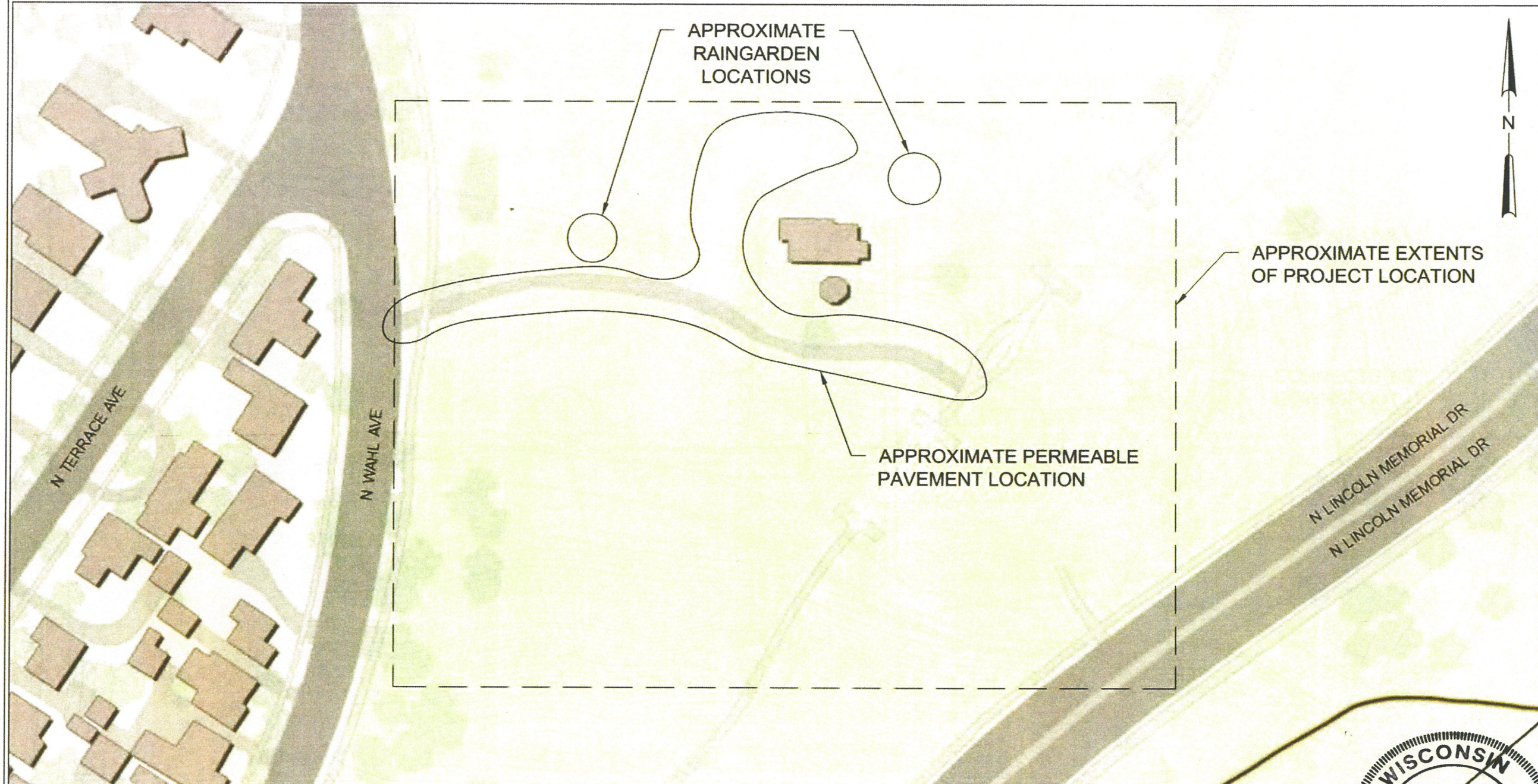


- PROJECT INCLUDES:
- PERMEABLE PAVER PARKING LOT + DRIVEWAY
 - RAINGARDENS



**NORTH POINT
LIGHTHOUSE**

NORTH POINT LIGHTHOUSE
FRIENDS, INC.

2650 N. WAHL AVE.
MILWAUKEE, WI

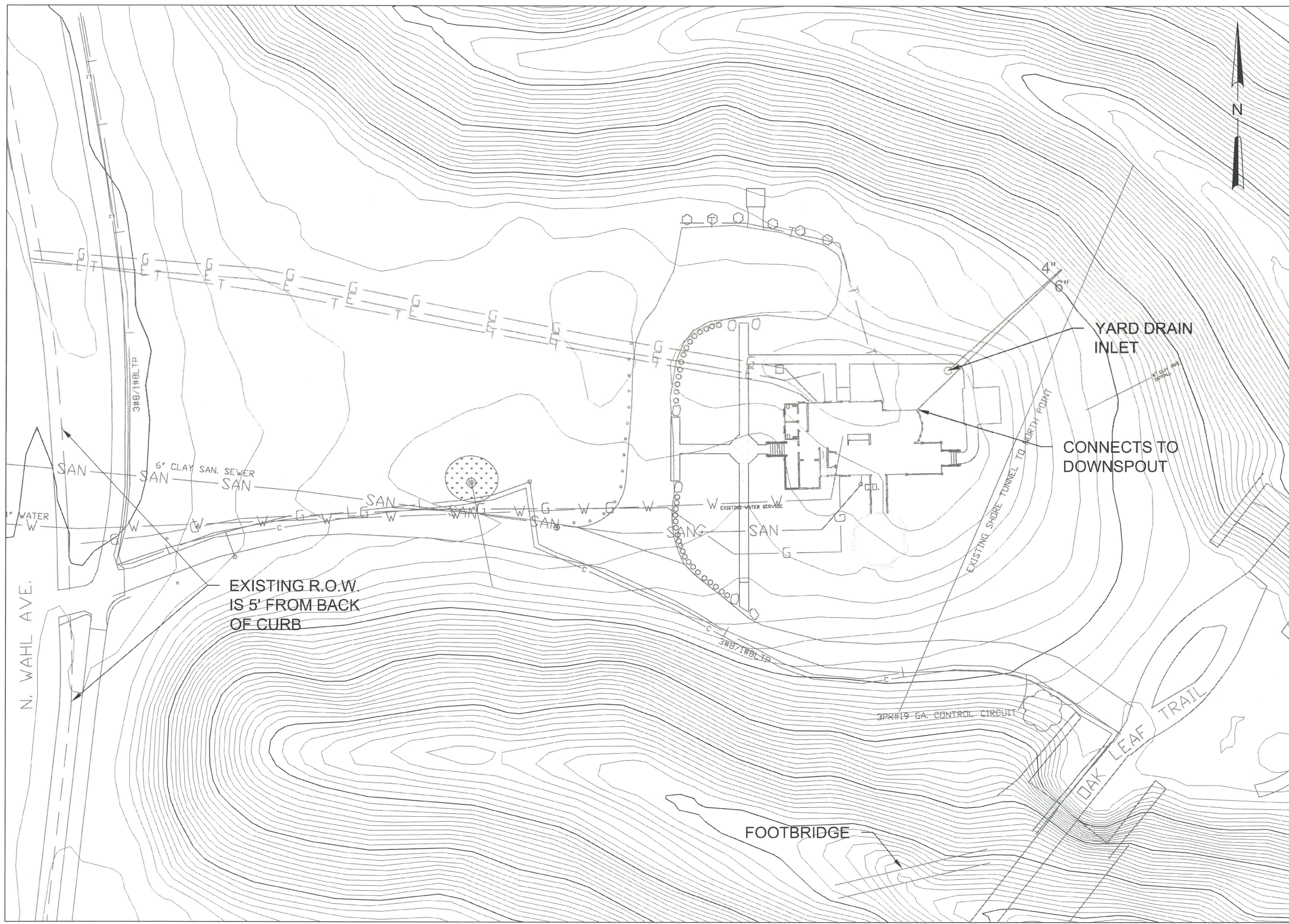
DATE: 1/6/16	DWG BY: HJG
CHK'D BY: ABS	APRV'D BY: CBG

**NORTH POINT
LIGHTHOUSE
PROJECT
LOCATION**

**SHEET #
1**



PLOT SCALE : N.T.S.

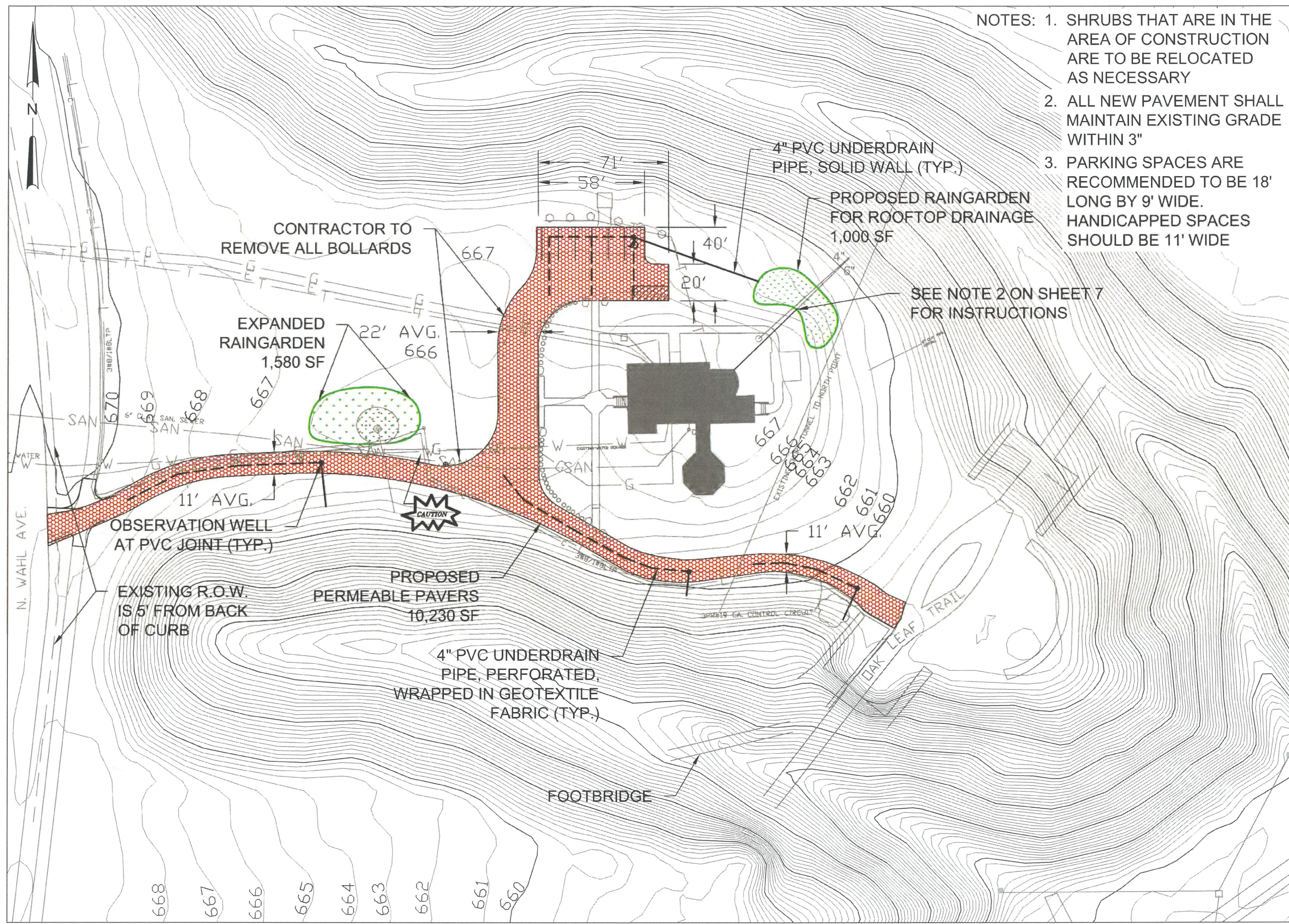


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ENGINEERING LLC**

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NORTH POINT LIGHTHOUSE	
NORTH POINT LIGHTHOUSE FRIENDS, INC.	
2650 N. WAHL AVE. MILWAUKEE, WI	
DATE: 1/6/16	DWG BY: HJG
CHK'D BY: ABS	APRV'D BY: CBG
NORTH POINT LIGHTHOUSE EXISTING CONDITIONS	
SHEET # 2	

PLOT SCALE : 1"=40'



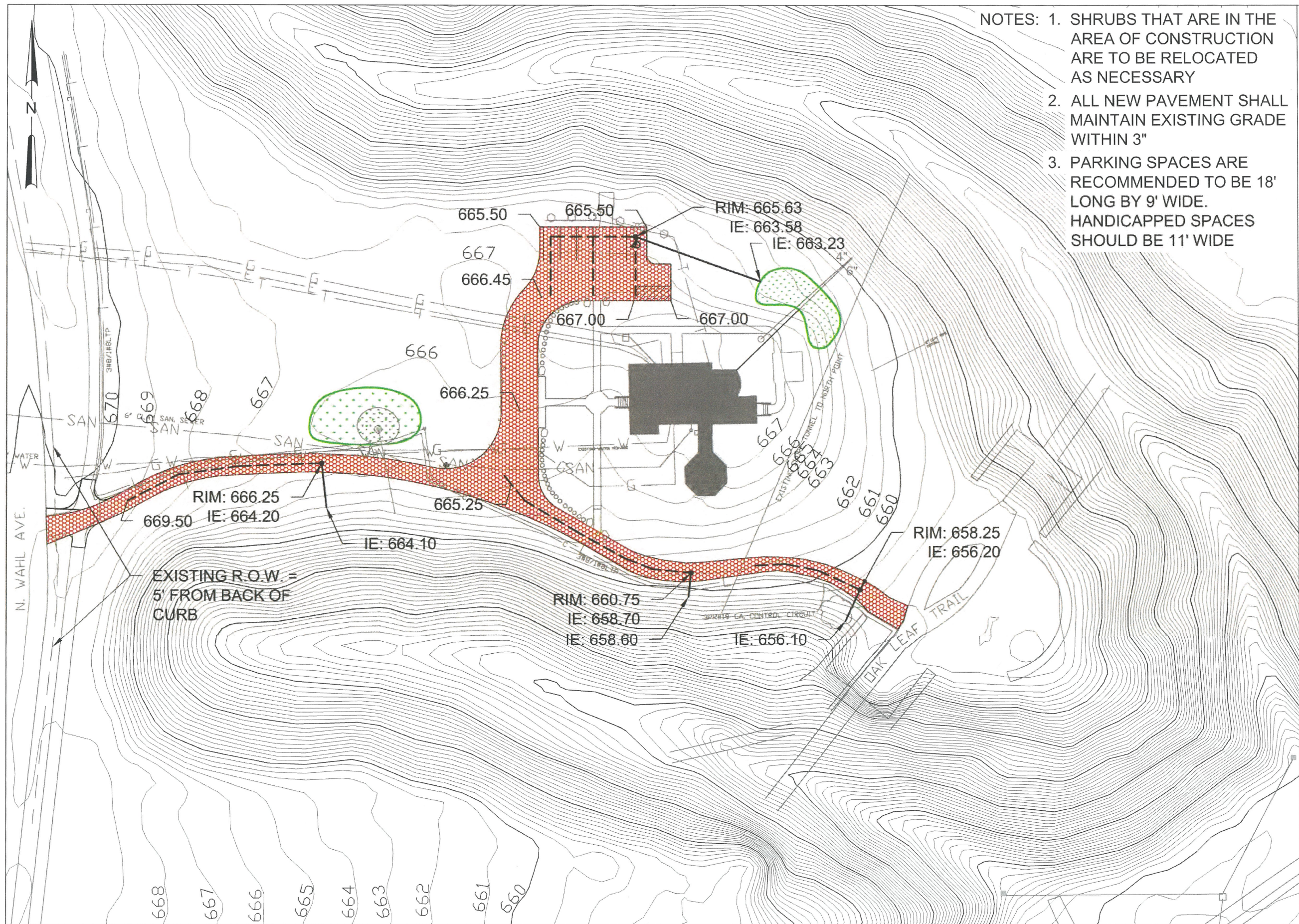
- NOTES: 1. SHRUBS THAT ARE IN THE AREA OF CONSTRUCTION ARE TO BE RELOCATED AS NECESSARY
2. ALL NEW PAVEMENT SHALL MAINTAIN EXISTING GRADE WITHIN 3"
3. PARKING SPACES ARE RECOMMENDED TO BE 18' LONG BY 9' WIDE. HANDICAPPED SPACES SHOULD BE 11' WIDE



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DATE: 1/6/16		DWG BY: HJG			
CHK'D BY: ABS		APRV'D BY: CBG			
NORTH POINT LIGHTHOUSE PROPOSED SITE PLAN					
SHEET # 3					



- NOTES: 1. SHRUBS THAT ARE IN THE AREA OF CONSTRUCTION ARE TO BE RELOCATED AS NECESSARY
2. ALL NEW PAVEMENT SHALL MAINTAIN EXISTING GRADE WITHIN 3"
3. PARKING SPACES ARE RECOMMENDED TO BE 18' LONG BY 9' WIDE. HANDICAPPED SPACES SHOULD BE 11' WIDE

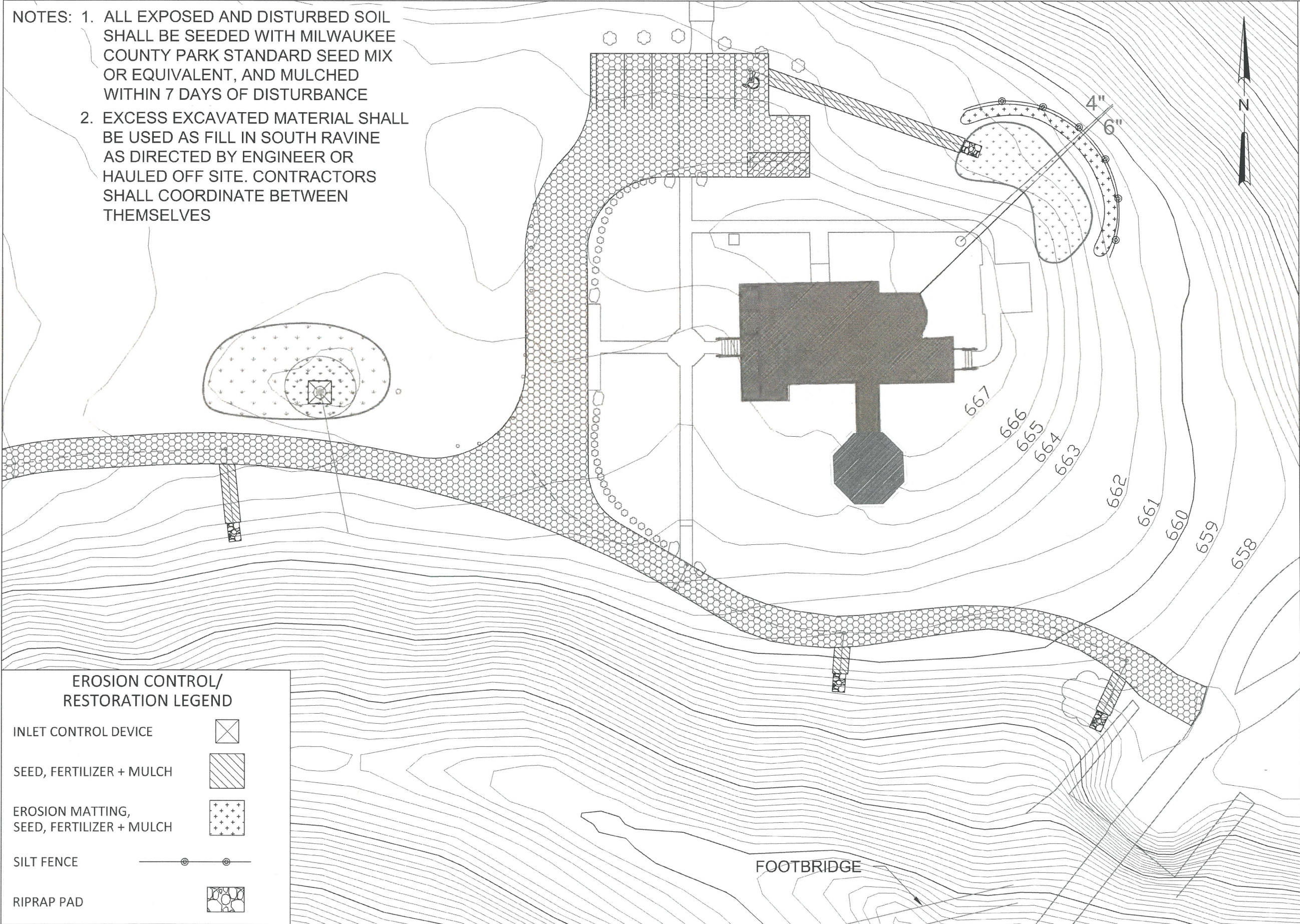


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DATE: 1/6/16		DWG BY: HJG		NORTH POINT LIGHTHOUSE PROPOSED SITE PLAN ELEVATIONS	
CHK'D BY: ABS		APRV'D BY: CBG			
SHEET # 4					

- NOTES: 1. ALL EXPOSED AND DISTURBED SOIL SHALL BE SEEDED WITH MILWAUKEE COUNTY PARK STANDARD SEED MIX OR EQUIVALENT, AND MULCHED WITHIN 7 DAYS OF DISTURBANCE
2. EXCESS EXCAVATED MATERIAL SHALL BE USED AS FILL IN SOUTH RAVINE AS DIRECTED BY ENGINEER OR HAULED OFF SITE. CONTRACTORS SHALL COORDINATE BETWEEN THEMSELVES



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NORTH POINT LIGHTHOUSE

NORTH POINT LIGHTHOUSE FRIENDS, INC.

2650 N. WAHL AVE.
MILWAUKEE, WI

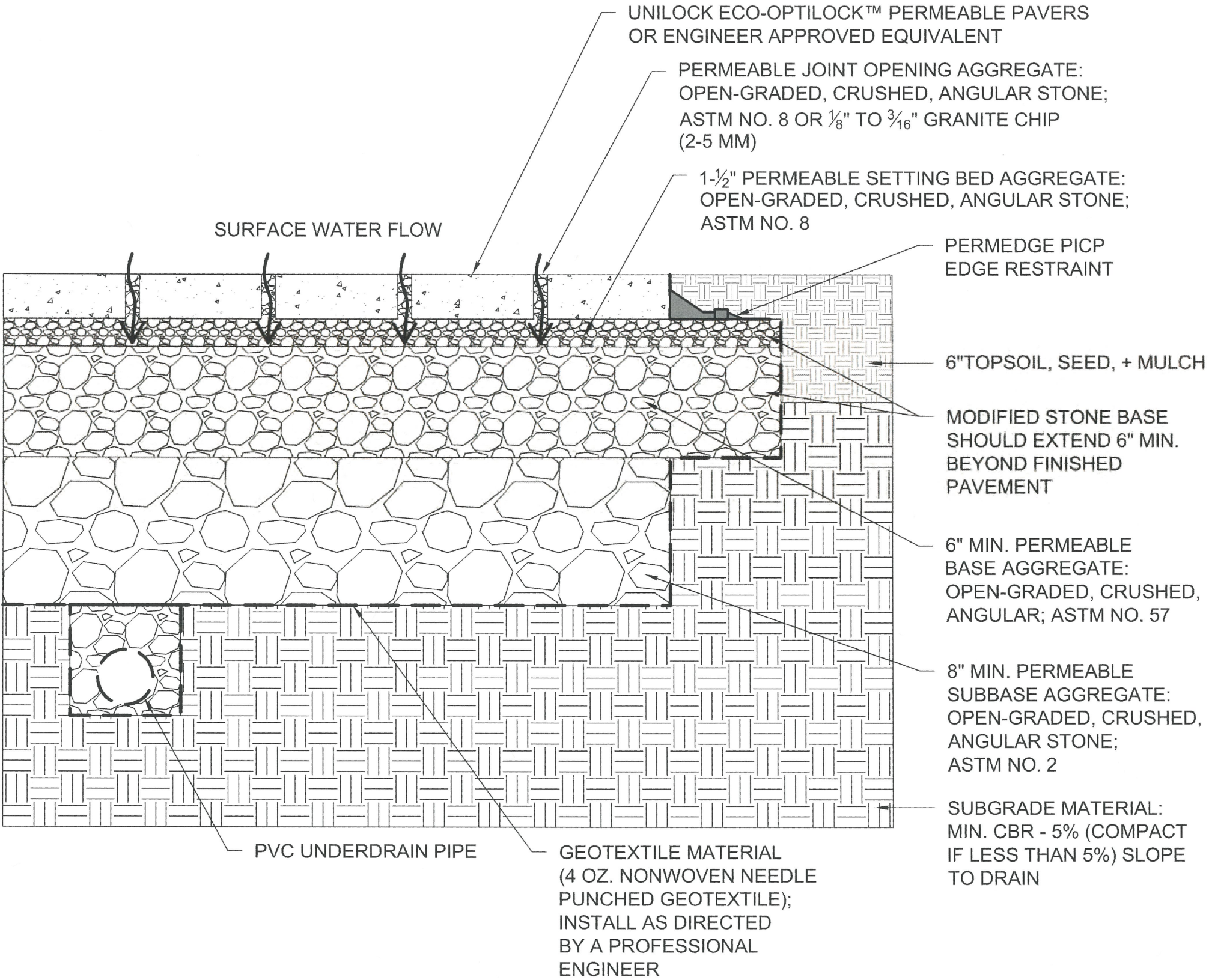
DATE: **1/6/16**
CHK'D BY: **ABS**

DWG BY: **HJG**
APRV'D BY: **CBG**

NORTH POINT LIGHTHOUSE EROSION CONTROL/ RESTORATION PLAN

SHEET #
5

- NOTES:
- 1) THIS PERMEABLE PAVEMENT DETAIL IS A RECOMMENDED MINIMUM AND MUST BE DESIGNED BY A PROFESSIONAL ENGINEER
 - 2) ALL AGGREGATE MATERIAL SHALL BE CRUSHED, ANGULAR SONE AND FREE OF FINES
 - 3) COMPACT SUBSOIL WITH A CALIFORNIA BEARING RATIO (CBR) OF LESS THAN 5% AS DIRECTED BY A PROFESSIONAL ENGINEER
 - 4) SURFACE SLOPE SHALL BE A MINIMUM OF 1% AND A MAXIMUM OF 5%
 - 5) INSTALL PVC UNDERDRAIN PIPE AS DIRECTED BY A PROFESSIONAL ENGINEER
 - 6) NEVER BUILD PERMEABLE PAVEMENTS ON ORGANIC CLAY SOILS OF HIGH PLASTICITY AND/OR PEAT, MULCH, SOILS WITH HIGH ORGANIC CONTENT
 - 7) MAINTAIN A MINIMUM DISTANCE OF 2' BETWEEN BOTTOM OF PERMEABLE BASE AND WATER TABLE
 - 8) THE MINIMUM AGGREGATE THICKNESSES ARE AFTER COMPACTION
 - 9) CROWN ROADWAY APPLICATIONS AT A 1.5 TO 1.7% SLOPE FOR INCREASED PAVEMENT STIFFNESS (CROWNING IS NOT FOR DRAINAGE PURPOSES)
 - 10) ONLY USE CRUSHED, ANGULAR GRANITE CHIPS FOR JOINT MATERIAL IN ROADWAY APPLICATIONS
 - 11) PVC UNDERDRAIN PIPE PLACED BENEATH PERMEABLE PAVERS ARE TO BE PERFORATED PIPE WRAPPED IN GEOTEXTILE FABRIC; OUTFALL SECTIONS OF UNDERDRAIN ARE TO BE SOLID WALL PVC
 - 12) RECOMMENDED MIN. SLOPE FOR PAVER INSTALLATION IS 0.5%



**STORMWATER
SOLUTIONS
ENGINEERING LLC**

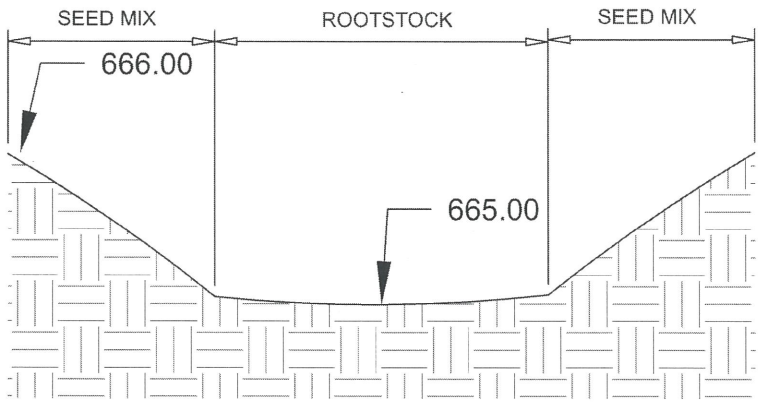
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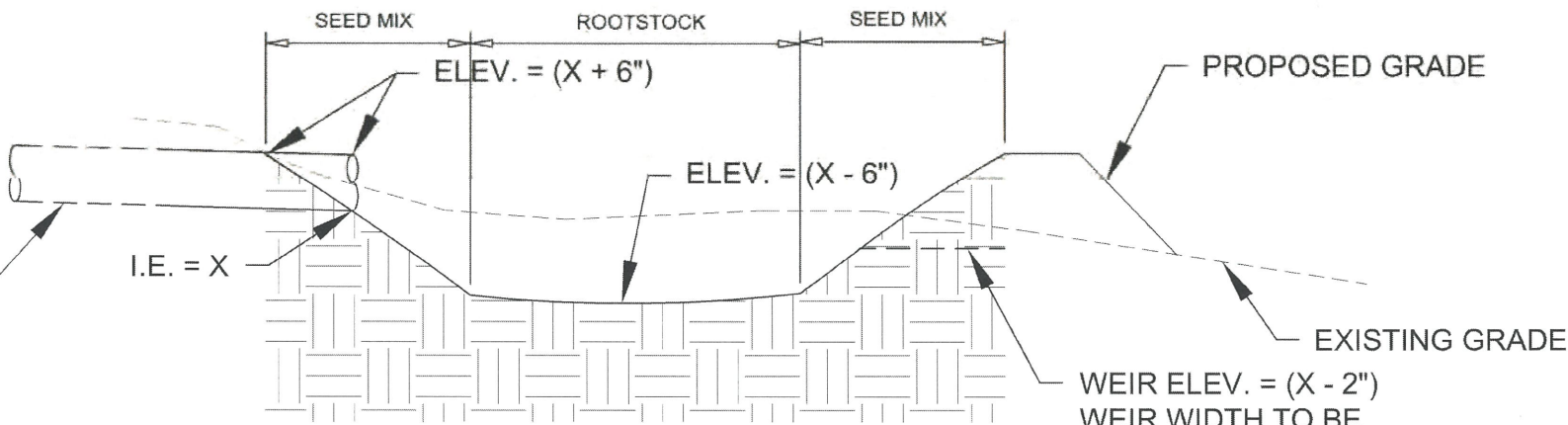
NORTH POINT LIGHTHOUSE		NORTH POINT LIGHTHOUSE FRIENDS, INC.		2650 N. WAHL AVE. MILWAUKEE, WI	
DATE: 1/6/16		DWG BY: HJG			
CHK'D BY: ABS		APRV'D BY: CBG			
PERMEABLE PAVEMENT DETAILS					
SHEET # 6					

- NOTES: 1. EXISTING RAINGARDEN IS TO BE EXPANDED OUTWARD AT SAME GRADE. DO NOT DISTURB EXISTING MANHOLE (WILL BE LEFT IN PLACE FOR CONTINUED DRAINAGE). EXISTING MANHOLE IS NOT SHOWN IN DETAIL
2. CONTRACTOR IS TO LOCATE AND CUT EXISTING 6" PVC ROOF DRAIN + 4" PVC YARD DRAIN AT A DISTANCE OF 47' FROM THE VERTICAL LENGTH OF ROOF DRAIN NEAR THE NE CORNER OF THE BUILDING. POINT-ELEVATIONS FOR THIS RAINGARDEN SHALL BE MADE IN RELATION TO THE INVERT ELEVATION (X), AS IT IS DISCOVERED. ELEVATION RELATIONSHIPS ARE SHOWN IN DETAIL "PROPOSED RAINGARDEN (B)"

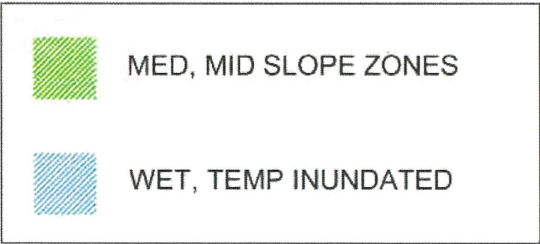
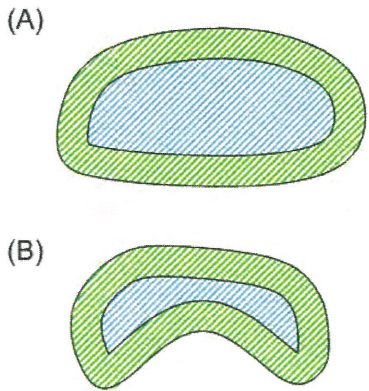
EXISTING 6" PVC ROOF DRAIN
+ 4" PVC YARD DRAIN
(SEE NOTE 2 FOR INSTRUCTIONS)



**EXPANDED
RAINGARDEN (A)**
1,580 SF



**PROPOSED
RAINGARDEN (B)**
1,000 SF



**RAINGARDEN
PLANTING ZONES**

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**NORTH POINT
LIGHTHOUSE**

**NORTH POINT LIGHTHOUSE
FRIENDS, INC.**

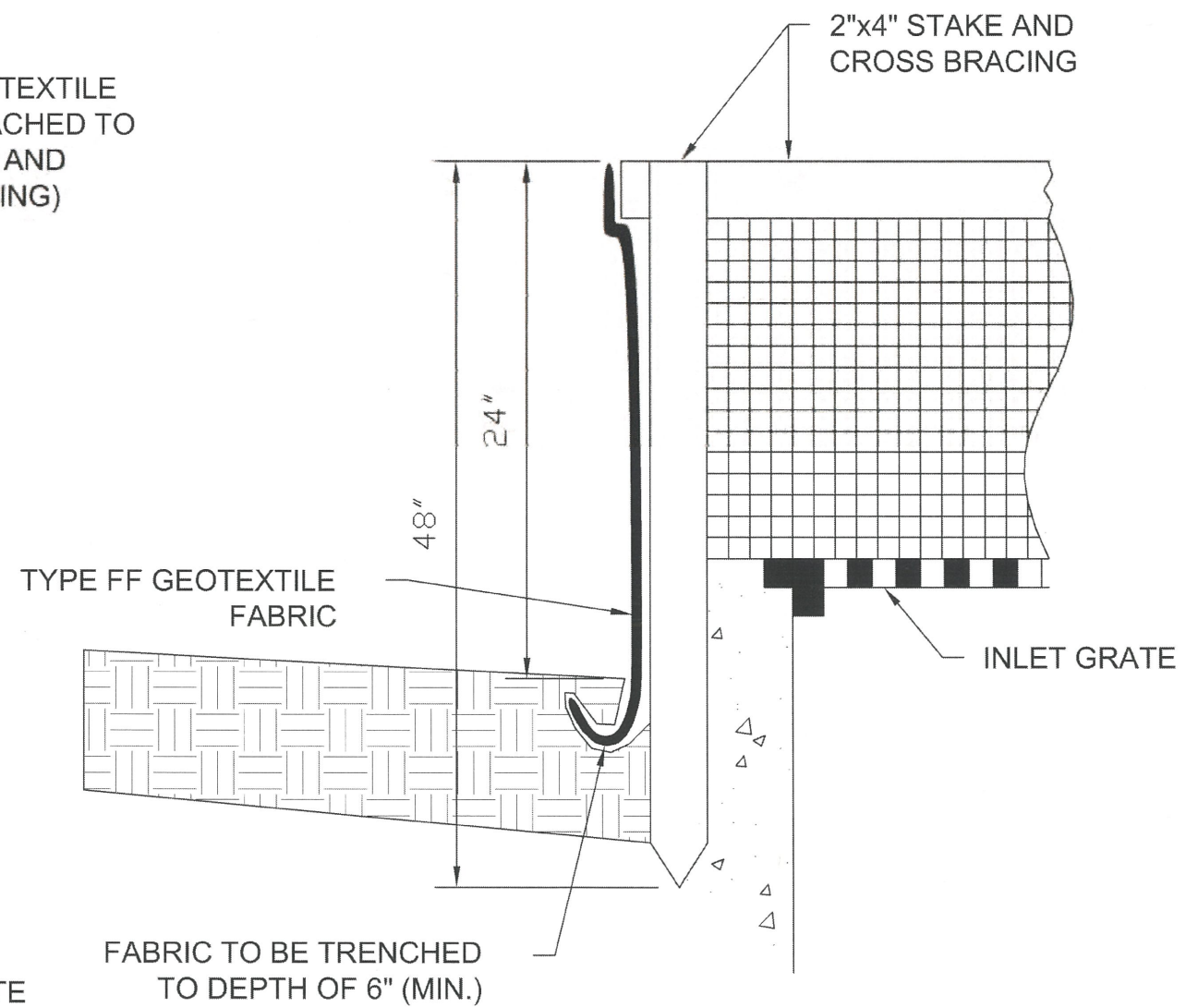
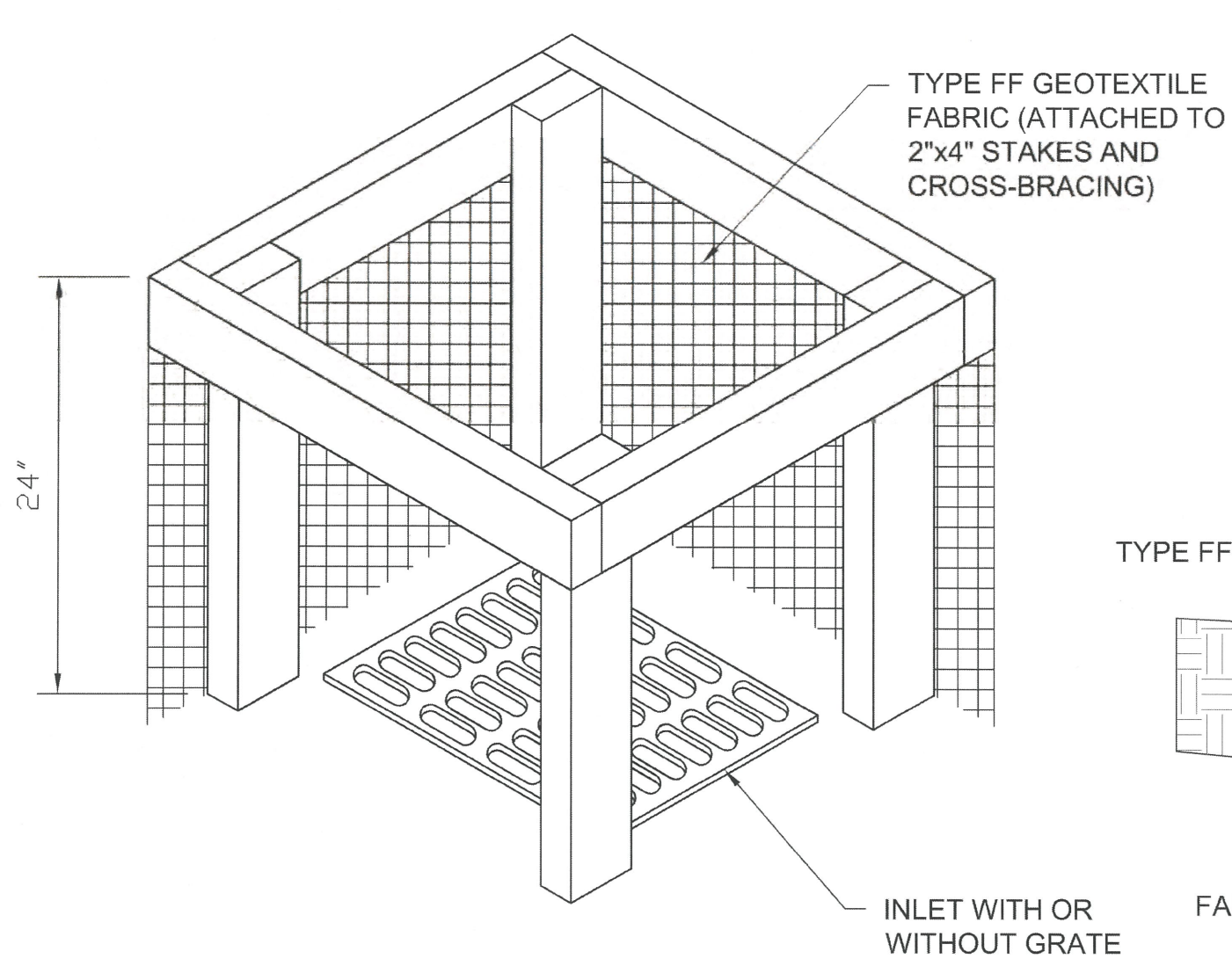
**2650 N. WAHL AVE.
MILWAUKEE, WI**

DATE: **1/6/16** DWG BY: **HJG**

CHK'D BY: **ABS** APRV'D BY: **CBG**

**RAINGARDEN
DETAILS**

**SHEET #
7**



**INLET PROTECTION
TYPE A**

**STORMWATER
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**NORTH POINT
LIGHTHOUSE**

NORTH POINT LIGHTHOUSE
FRIENDS, INC.

**2650 N. WAHL AVE.
MILWAUKEE, WI**

DATE:
1/6/16

DWG BY:
HJG

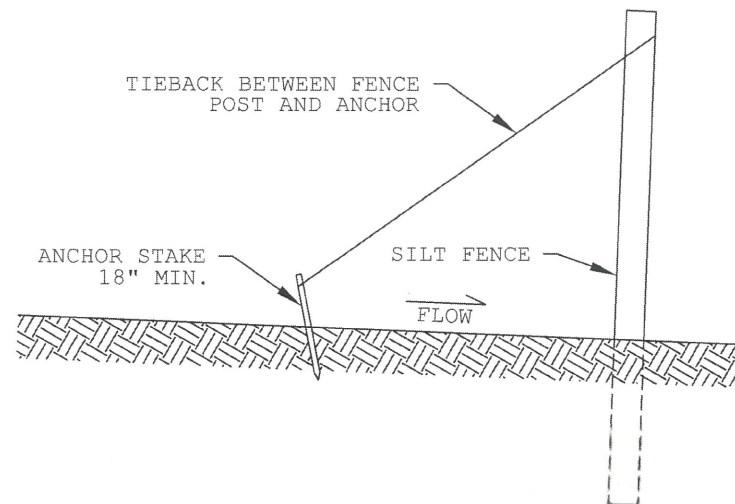
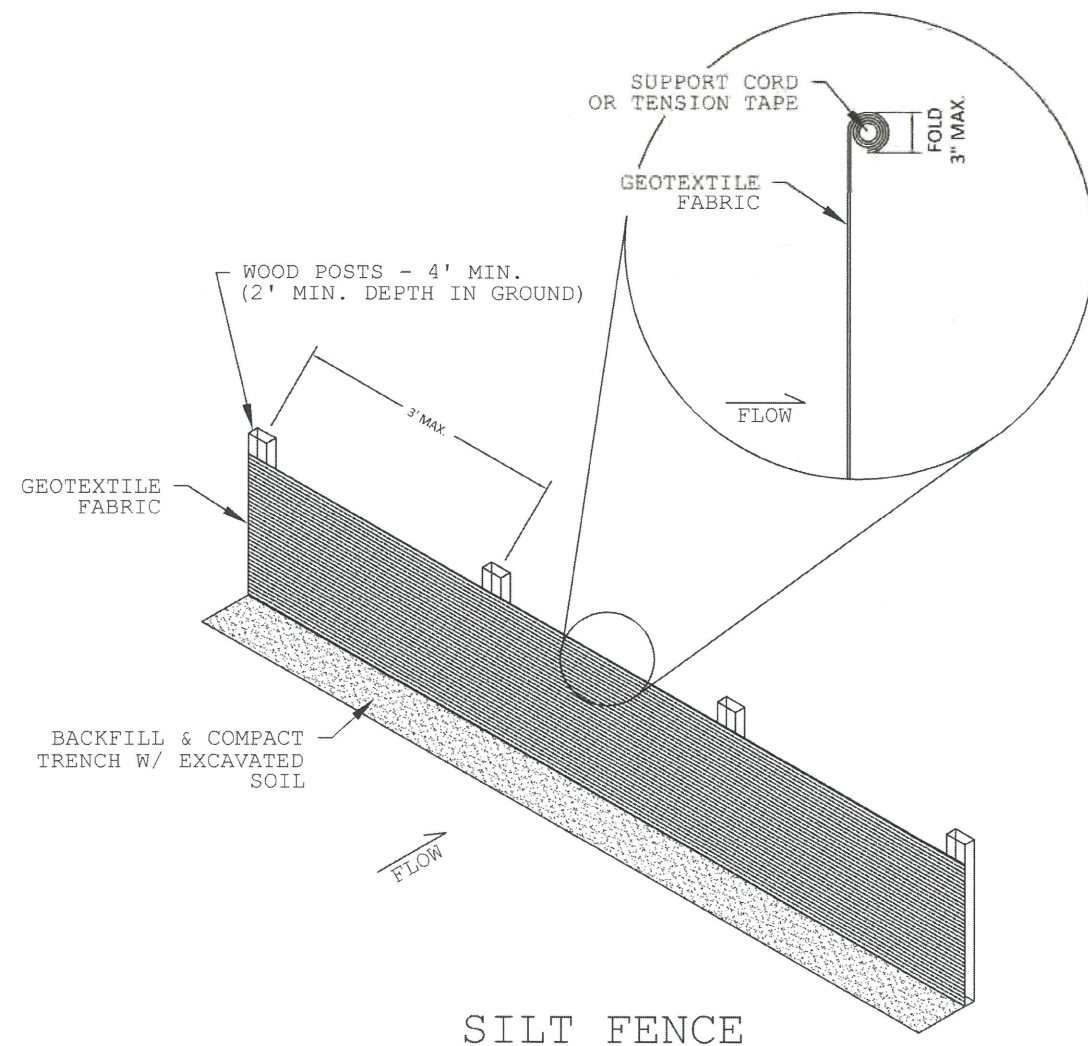
CHK'D BY:
ABS

APRV'D BY:
CBG

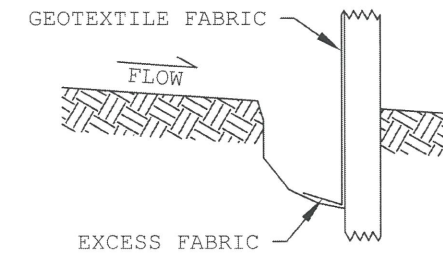
**INLET
PROTECTION
DETAILS**

**SHEET #
8**

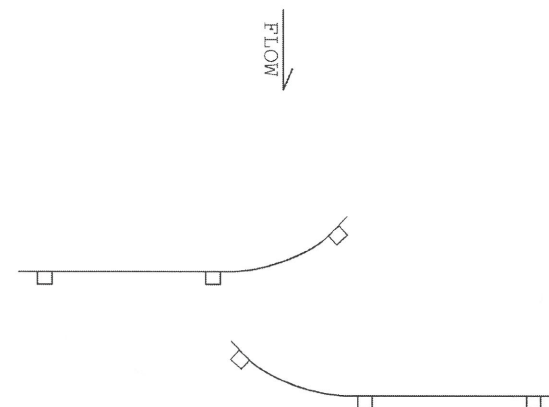
- NOTES:
1. ADDITIONAL POST DEPTH OR TIEBACKS MAY BE REQUIRED IN UNSTABLE SOILS.
 2. 8' POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.
 3. HORIZONTAL BRACE REQUIRED WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
 4. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
 5. WOOD POSTS SHALL BE A MINIMUM OF 1 1/8"x 1 1/8" OF OAK OR HICKORY.
 6. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
 7. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A.) OVERLAP THE END POSTS AND TWIST OR ROTATE AT LEAST 180 DEGREES, B.) HOOK THE END OF EACH SILT FENCE LENGTH.



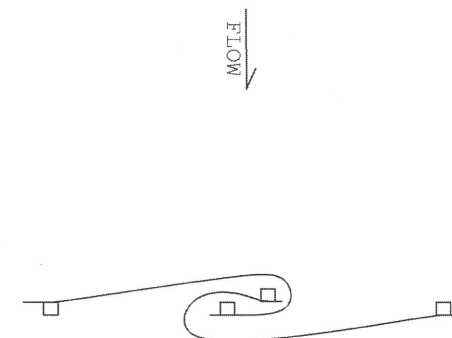
SILT FENCE TIEBACK
(WHEN REQUIRED BY ENGINEER)



TRENCH DETAIL



HOOK METHOD



TWIST METHOD

JOINING TWO LENGTHS OF SILT FENCE

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NORTH POINT LIGHTHOUSE

NORTH POINT LIGHTHOUSE FRIENDS, INC.

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SILT FENCE DETAILS

SHEET #
9