

DRAWING PHASE:

OWNER REVIEW
<input checked="" type="checkbox"/> AGENCY REVIEW
BID DOCUMENT
FOR CONSTRUCTION
AS-BUILT DOCUMENT

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

TODD A. ERICKSON, PE
40418

LICENSE NO.
04/19/2017

DATE:

WOODBURY LUTHERAN
GRANT LOCATION

CONSTRUCTION PLAN
9050 60th Street North
Stillwater, MN 55082

PROJECT TITLE

NO.	REVISION	DESCRIPTION	DATE

JOB NO. 15-110

SHEET TITLE
CONSTRUCTION PLAN

SHEET NO.

C1

ESTIMATED QUANTITIES:

- 4" PERFORATED DRAIN TILE WITH SOCK AND BEDDING MATERIAL = 519 L.F.
- 4" DRAIN TILE CLEANOUTS = 18 EACH
- 12" PERFORATED DRAIN TILE = 145 L.F.
- 27" DIA. CB, WITH GRATE = 1 EACH
- 12" RISER PIPE = 1 EACH
- HYDROSEEDING (200LBS. PER ACRE LOW GROW FESCUE, 20LBS. PER ACRE OATS) = 18,750 S.F.
- TYPE 2S, SINGLE SIDED STRAW EROSION CONTROL BLANKET = 1,900 SQ. YDS.
- RISER PIPE INLET PROTECTION = 18 EACH
- CATCH BASIN INLET PROTECTION = 1 EACH
- 8" MNDOT SPEC BIO LOG = 285 L.F.
- 3/4" CLEAN DRAIN ROCK FOR PLACEMENT OF DRAIN TILE = 125 TON
- TYPE 3, NON-WOVEN FABRIC TO BE PLACED AROUND DRAIN TILE SYSTEM(S) = 530 SQ. YDS.
- CLEAN FILL MATERIAL = 2,260 CU. YDS. (L.V.)
- TOPSOIL = 250 CU. YDS. (L.V.)

Temporary Driveway

EXISTING DRAINAGE AREAS

DRAINAGE AREA (SQ. FT.)	PAVED/BUILDING AREA (SQ. FT.)	OPEN SPACE AREA (SQ. FT.)
98,870	47,055	51,815

PROPOSED DRAINAGE AREAS

DRAINAGE AREA (SQ. FT.)	PAVED/BUILDING AREA (SQ. FT.)	OPEN SPACE AREA (SQ. FT.)
98,870	48,855	49,665

SWPPP SEQUENCING

- NO MPCA PERMIT REQUIRED < 1 ACRE DISTURBANCE.
- MOVE EXISTING DEBRIS PILE AWAY FROM AREA OF PIPE INSTALLATION. REMOVE ALL ORGANIC MATERIAL PRIOR TO PLACEMENT OF ADDITIONAL FILL.
- INSTALL DRAIN TILE PIPING WITH STAND PIPES AS DESCRIBED. SCARIFY EXISTING SOIL PRIOR TO PLACEMENT OF FABRIC, TILE AND DRAIN ROCK.
- ALL DRAIN TILE STAND PIPES SHALL BE COVERED WITH CAT. 3 NON WOVEN FABRIC UNTIL SITE IS STABILIZED. THE LOW AREA MAY REQUIRE DEWATERING IF INUNDATED DURING CONSTRUCTION.
- COMPLETE FILLING OPERATION AND SEEDING.
- SEEDING SHALL BE COMPLETED WITH IN 24 HOURS OF FINAL PLACEMENT OF TOPSOIL.
- SITE SHALL BE SEEDED AND BLANKETED WITH TYPE 2S STRAW BLANKET.

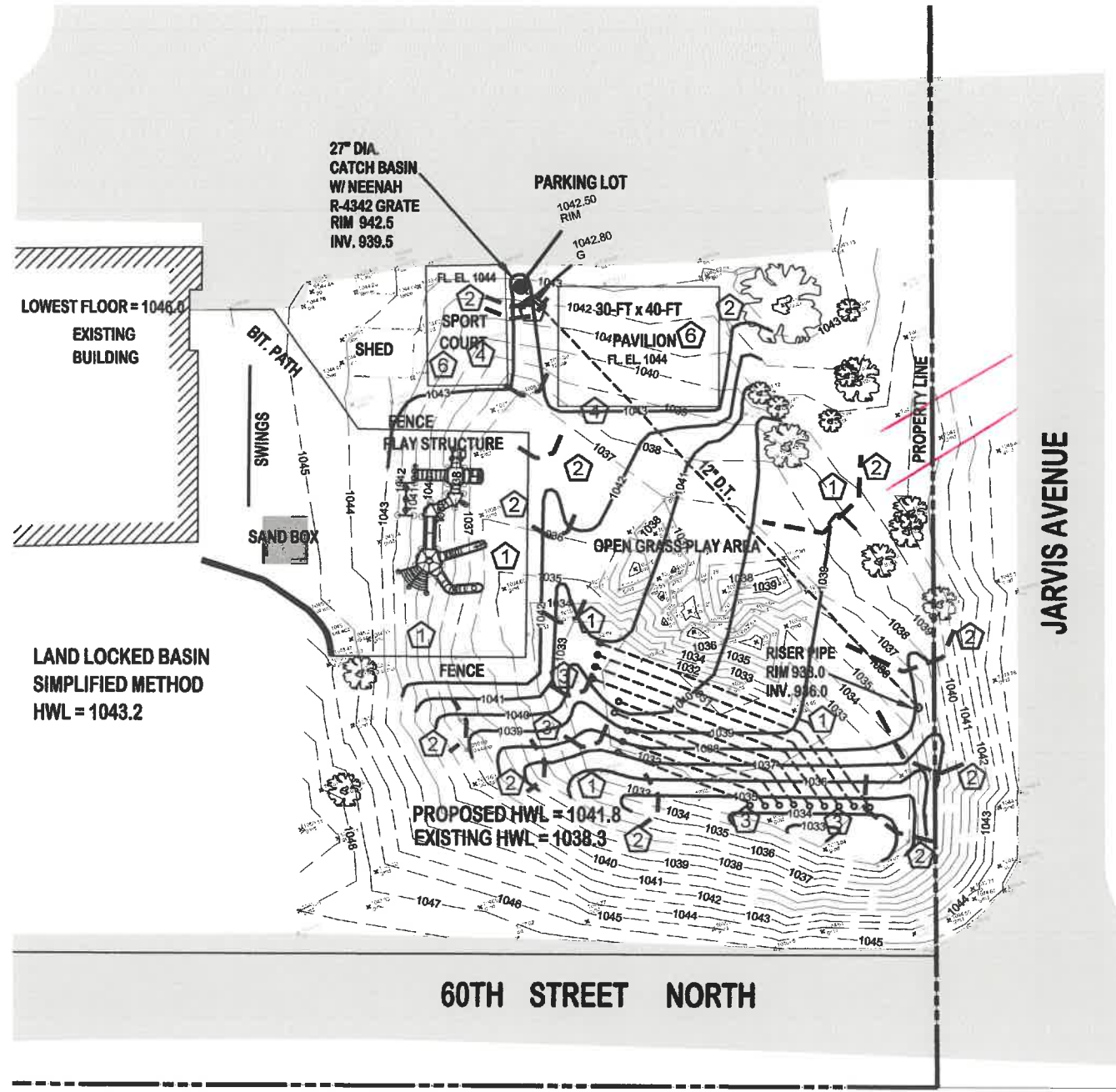
SIMPLIFIED METHOD

Rainfall Volume Calculation

	Drainage Area (Sq. Ft.)	Net Rainfall (Inches)	Volume of Water (Cu. Ft.)
Impervious Area	48,855	16	85,140
Turfed Area	50,015	10	41,679
Water Area	-	18	-
Total	98,870		106,819

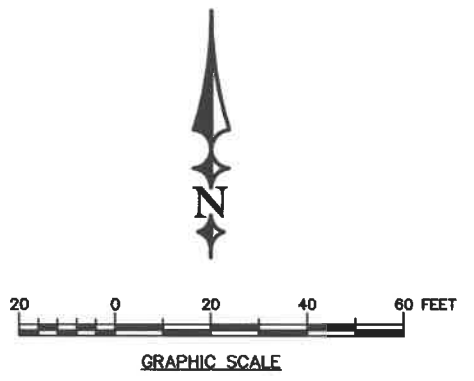
Pond Volume Calculation

Elevation	Area (Sq. Ft.)	Volume (Cu. Ft.)	Stage Storage Volume (Cu. Ft.)
1033	50	356	356
1034	306	1,150	1,506
1035	844	2,352	3,858
1036	1,508	3,795	7,653
1037	2,287	5,467	13,120
1038	3,180	8,386	21,506
1039	7,919	13,125	34,631
1040	11,210	25,355	53,760
1041	14,145	46,308	79,115
1042	32,163	125,423	204,538
1044			Flood Elevation 1,043.20



GRADING AND EROSION CONTROL REQUIREMENTS:

- ALL CONSTRUCTION AS CALLED FOR ON THESE CONTRACT DOCUMENTS SHALL BE PERFORMED IN ACCORDANCE WITH ALL OSHA REQUIREMENTS.
- MINIMIZE ACTIVITY OF HEAVY MACHINERY IN BOTTOM OF PONDING AREA AND DRAIN TILE BEDDING AREA.
- SPOT ELEVATIONS/CONTOURS SHOWN AS FINISHED GRADE ELEVATIONS.
- PRIOR TO ON SITE EXCAVATION OR DEMOLITION WORK, INSTALL EROSION CONTROL MEASURES IN LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER OR CITY STAFF.
- EROSION CONTROL MEASURES SHOWN ON THE EROSION CONTROL PLAN ARE THE ABSOLUTE MINIMUM. THE CONTRACTOR SHALL INSTALL SEDIMENT TRAPS OR BASINS AND BIO LOG AS DEEMED NECESSARY TO CONTROL EROSION.
- GRADING OPERATIONS SHALL BE CONDUCTED IN A MANNER TO MINIMIZE THE POTENTIAL FOR SITE EROSION. SEDIMENT CONTROL PRACTICES MUST BE ESTABLISHED PRIOR TO THE START OF ANY UP GRADIENT LAND DISTURBING ACTIVITIES
- PROVIDE 6" OF NATIVE TOPSOIL IN GREEN AREAS.
- ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.
- TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS, AND CANNOT BE PLACED IN SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS SWALES AND DITCHES UNLESS THERE IS A BYPASS IN PLACE FOR THE STORMWATER.
- SLOPES 3:1 AND GREATER SHALL BE STABILIZED WITH EROSION CONTROL BLANKET OR AS DEPICTED ON PLANS.
- MAINTAIN AND REPAIR EROSION CONTROL MEASURES (INCLUDING REMOVAL OF ACCUMULATED SILT) UNTIL VEGETATION IS ESTABLISHED. CONTRACTOR TO INSPECT AND DOCUMENT EROSION CONTROL DAILY AND AFTER ANY RAIN EVENT. ALL SEDIMENT CONTROL FEATURES MUST BE REPAIRED WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE STRUCTURE, OR REPLACED WITHIN 24 HOURS OF DISCOVERY. EROSION CONTROL STRUCTURES FOUND DAMAGED MUST BE REPAIRED OR REPLACED WITHIN 24 HOURS UPON DISCOVERY. REMOVAL OF EROSION CONTROL STRUCTURES REQUIRED AFTER SITE IS STABILIZED (AT DIRECTION OF ENGINEER).
- ALL EXISTING CITY STREETS SHALL BE SWEEPED AS NEEDED AND AS REQUESTED BY ENGINEER OR CITY STAFF.
- REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.
- AFTER GRADING OPERATIONS ARE COMPLETED, LANDSCAPE CONTRACTOR SHALL UNCOMPACT ALL GREEN AREAS PRIOR TO SEEDING AND LANDSCAPING.
- PERMANENT RESTORATION IN LAWN AREAS SHALL BE SEED/BLANKET.
- POSITIVE DRAINAGE OF MINIMUM 2% SLOPE SHALL BE ACHIEVED AWAY FROM PROPOSED BUILDING.



LEGEND:

- EXISTING PARCEL BOUNDARY
- - - 930 - - - EXISTING 2-FT CONTOUR
- 930 — PROPOSED 2-FT CONTOUR
- EXISTING/PROPOSED DRAINAGE ARROW
- - - - - PROPOSED DRAIN TILE

KEYED NOTES:

- INSTALL TYPE 2S SINGLE SIDED EROSION CONTROL MAT OVER ENTIRE DISTURBED AREA. AFTER SITE IS SEEDED. ALL SEED AND BLANKET SHALL BE IN PLACE 24 HOURS MAX AFTER FINAL TOPSOIL IS PLACED.
- INSTALL 8" MNDOT SPEC. BIO LOG OVER EROSION BLANKET.
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- INSTALL 8" PERFORATED DRAIN TILE WITH RISER PIPE AS INDICATED. INSTALL AFTER REMOVING ALL EXISTING VEGETATION AND ORGANIC MATERIAL/TOPSOIL.
- REMOVE EXISTING TREE
- FUTURE AMENITIES, NOT PROPOSED AT THIS TIME. HARD SURFACE IS ACCOUNTED FOR WITH POND DESIGN.

NOTES:

- NO MPCA PERMIT REQUIRED < 1 ACRE DISTURBANCE = 18,750 S.F.
- NO STOCKPILING OF LOOSE ORGANIC MATERIAL ON SITE.

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AGENCY REVIEW	✓
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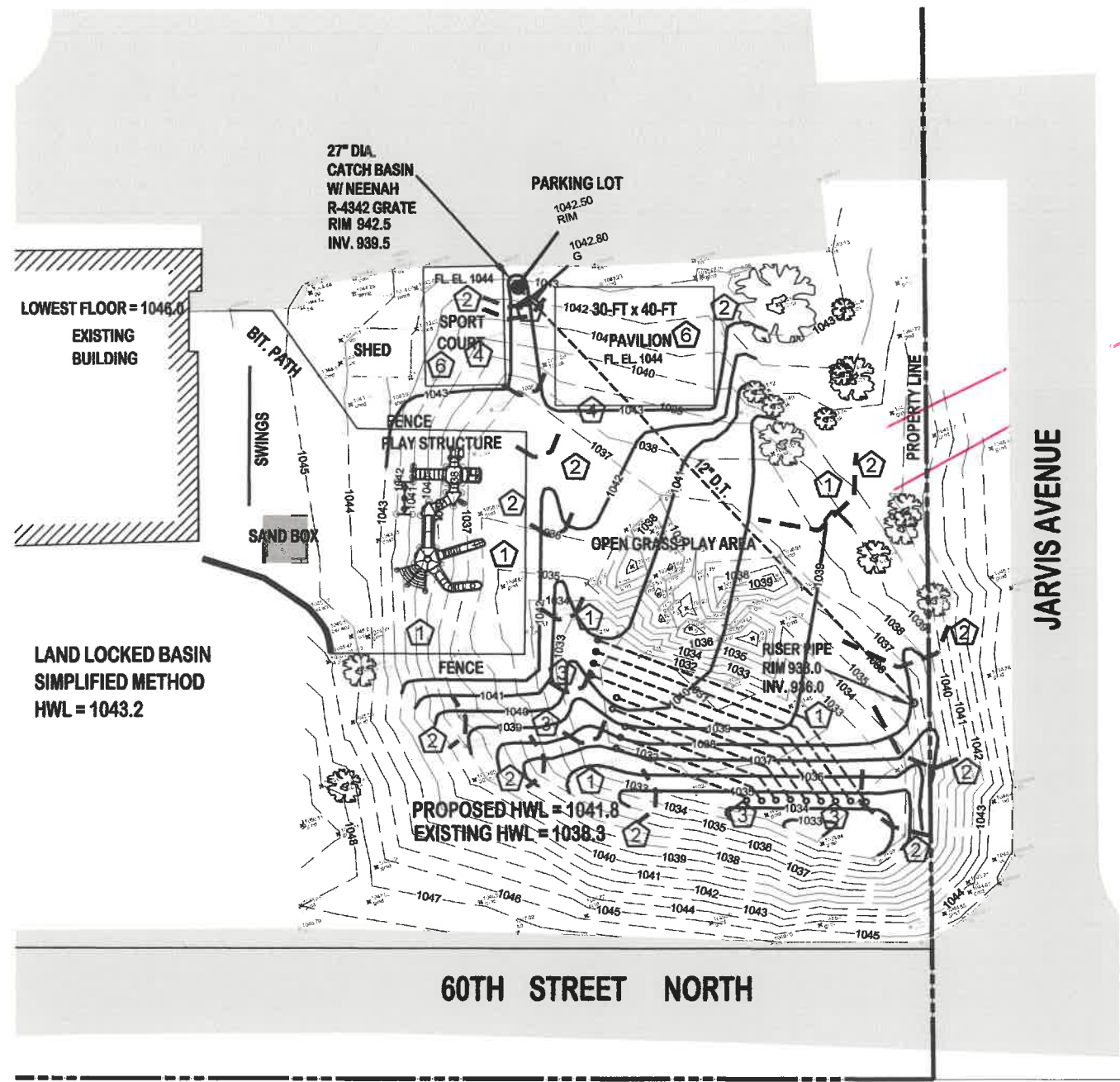
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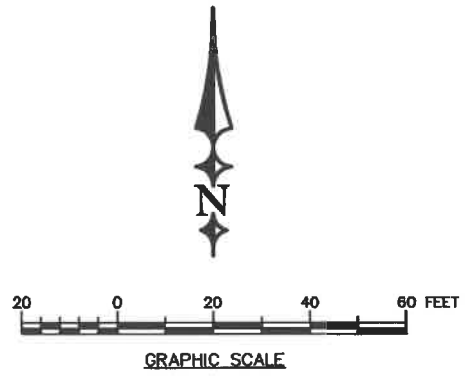
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