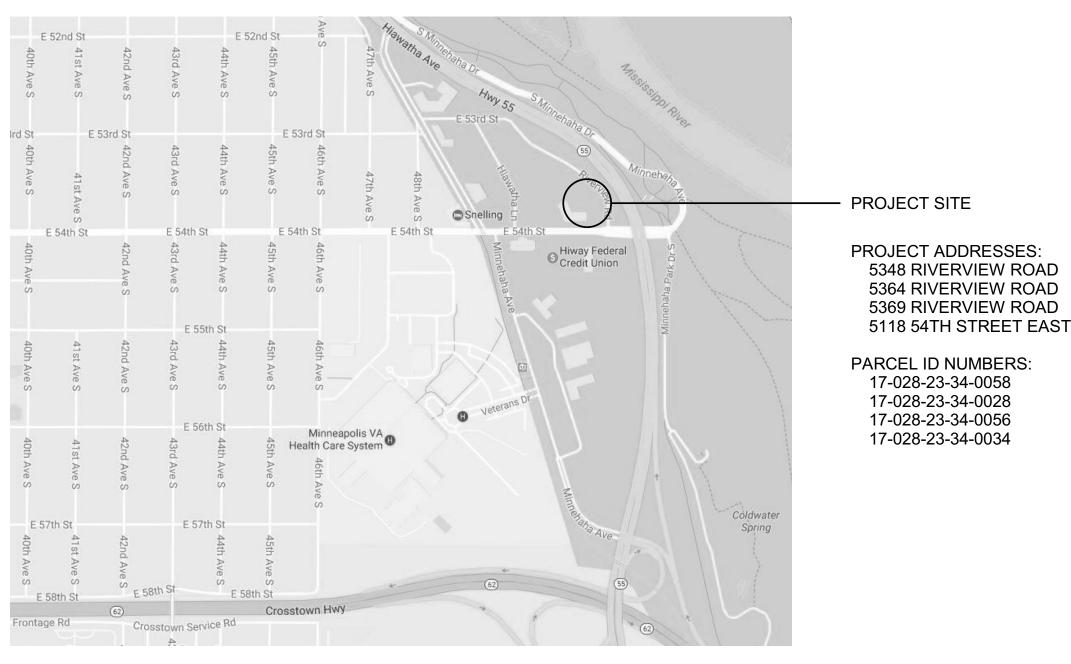
# MINNEHAHA TOWNHOMES

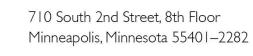
5348, 5364, 5369 RIVERVIEW ROAD, 5118 54TH ST EAST MINNEAPOLIS, MN 55417

SHT NO	SHEET NAME			
GENERAL				
G000	SITE ORIENTATION PLAN			
G001	SHEET INDEX AND SYMBOLS			
G002	TYPES AND SYSTEMS			
G030	FACADE AREAS BUILDING D			
G031	FACADE MATERIALS BUILDINGS A,B, +C			
G051	CODE			
CIVIL				
C100	GENERAL NOTES AND LEGEND			
C200	SWPPP NARRATIVE			
C201	SWPPP GENERAL INFORMATION			
C202	SWPPP DETAILS			
C203	SWPPP EXISTING CONDITIONS			
C204	SWPPP PROPOSED CONDITIONS			
C300	SITE DEMOLITION PLAN			
C400	DIMENSIONED SITE PLAN			
C500	GRADING PLAN			
C501	SOIL AMENDMENTS PLAN			
C600	UTILITY PLAN			
C601	SANITRAY SEWER PLAN			
C602	WATER PLAN			
C603	STORM SEWER PLAN			
C610	STORMWATER MANAGEMENT PLAN			
C611	STORMWATER MANAGEMENT PLAN			
C700	PAVING PLAN			
C701	CURB PROFILE			
C800	CIVIL DETAILS			
C801	CIVIL DETAILS			
C802	CIVIL DETAILS			
C803	CITY DETAILS			
	CITY DETAILS			
C804	CITT DETAILS			
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STRUCTURAL	CTDUCTUDAL MOTES CRECIAL INCRECTIONS : CHEET INDEX			
S000	STRUCTURAL NOTES, SPECIAL INSPECTIONS + SHEET INDEX			
S001	SCHEDULES + TYPICAL PLAN NOTES			
S100	FOOTINGS + FOUNDATION PLAN - UNIT A - 2333			
S101	FOOTING + FOUNDATION PLAN - UNIT B - 2333			
S102	FOOTING + FOUNDATION PLAN - UNIT C - 2333			
S103	FOOTING + FOUNDATION PLAN - UNIT D - 2334			
S200	SECOND FLOOR FRAMING PLAN - UNIT A,B,C - 2333			
S201	SECOND FLOOR FRAMING PLAN - UNIT D - 2334			
S300	ROOF FRAMING PLAN + ROOF TRUSS LOADING - UNIT A,B,C - 2333			
S301	ROOF FRAMING PLAN + ROOF TRUSS LOADING - UNIT D - 2334			
S400	FOUNDATION SECTIONS + DETAILS			
S500	SECOND FLOOR FRAMING SECTIONS + DETAILS			
S600	ROOF FRAMING SECTIONS + DETAILS			
3600	ROOF FRAMING SECTIONS + DETAILS			
	1			
ARCHITECTURA				
A001	SITE PLAN			
A002	LANDSCAPE PLAN			
A100	OVERALL BUILDING D PLAN - 2-3-3-4			
A101	OVERALL BUILDING A,B,C PLAN - 2-3-3-3			
A102	TWO BEDROOM			
A103	THREE BEDROOM			
A104	FOUR BEDROOM			
A105	BUILDING D ROOF PLAN 2-3-3-4			

SHT NO	SHEET NAME			
A106	BUILDING A,B,C ROOF PLAN 2-3-3-3			
A151	ENLARGED PLANS			
A201	BUILDING D ELEVATIONS 2-3-3-4			
A202	BUILDING D ELEVATIONS 2-3-3-4			
A203	BUILDIN C ELEVATIONS 2-3-3-3			
A204	BUILDING C ELEVATIONS 2-3-3-3			
A205	BUILDING A.B ELEVATIONS 2-3-3-3			
A206	BUILDING ELEVATIONS			
A251	BUILDING SECTIONS			
A252	BUILDINGS A.B BUILDING SECTION			
A301	WALL SECTIONS			
A351	EXTERIOR DETAILS			
A353	SHED + RECYCLING AREA			
A354	EXTERIOR SITE DETAILS			
A401	VERTICAL CIRCULATION			
A501	2 BEDROOM INTERIOR ELEVATIONS			
A502	3 BEDROOM INTERIOR ELEVATIONS			
A503	4 BEDROOM INTERIOR ELEVATIONS			
A601	DOOR SCHEDULE. TYPES AND DETAILS			
A602	BUILDINGS A,B,+C DOOR SCHEDULE			
A651	WINDOW SCHEDULE, TYPES AND DETAILS			
A652	BUILDINGS A,B, +C WINDOW SCHEDULE			
P000 P001 P100A	PLUMBING TITLE SHEET PLUMBING SITE PLAN PLUMBING BELOW GRADE PLAN - BUILDINGS A.B. +C			
P100B	PLUMBING BELOW GRADE PLAN - BUILDING D			
P101A	PLUMBING DOMESTIC WATER PLANS - BUILDINGS A,B, +C			
P101B	PLUMBING DOMESTIC WATER PLANS - BUILDING D			
P102A	PLUMBING SANITARY PLANS - BUILDINGS A,B, +C			
P102B	PLUMBING SANITARY PLANS - BUILDING D			
P300A	PLUMBING DOMESTIC WATER RISER - BULDINGS A, B, + C			
P300B	PLUMBING DPMESTIC WATER RISER - BUILDING D			
P301A	PLUMBING SANITARY RISER- BUILDINGS A,B,+ C			
P301B	PLUMBING SANITRAY RISER - BUILDING D			
P400	PLUMBING DETAILS + SCHEMATICS			
P500	PLUMBING SCHEDULES			
MECHANICAL	, Lower to Control to			
M000	MECHANICAL TITLE SHEET			
M101A	MECHANICAL PLANS - BUILDINGS A,B, + C			
M101B	MECHANICAL PLANS - BUILDING D			
M201A	MECHANICAL ROOF PLAN - BUILDINGS A,B, + C			
M201B	MECHANICAL ROOF PLAN - BUILDING D			
ELECTRICAL E000	ELECTRICAL TITLE SHEET			
E001	ELECTRICAL SITE PLAN - NORTH			
E100A	ELECTRICAL POWER PLANS - BUILDINGS A.B., + C			
E100B	ELECTRICAL POWER PLANS - BUILDING D			
	ELECTRICAL POWER PLANS - BUILDING D  ELECTRICAL LIGHTING PLANS - BUILDINGS A,B + C			
E101A	·			
E101B	ELECTRICAL LIGHTING PLANS - BUILDING D  ONE-LINE DIAGRAM + DETAILS			
E400 E500	ELECTRICAL SCHEDULES			
	TELECTRICAL SCHEDULES			



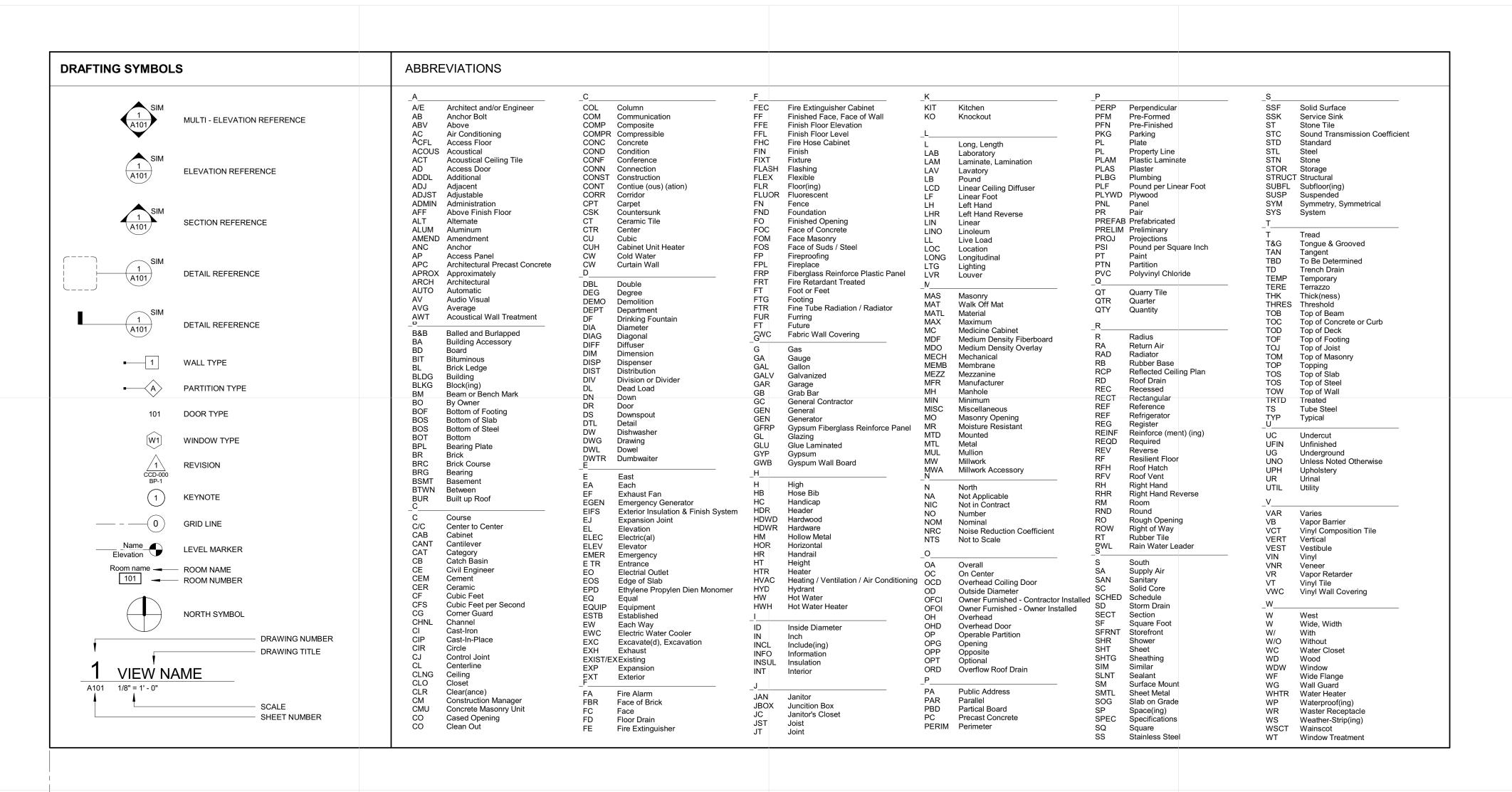


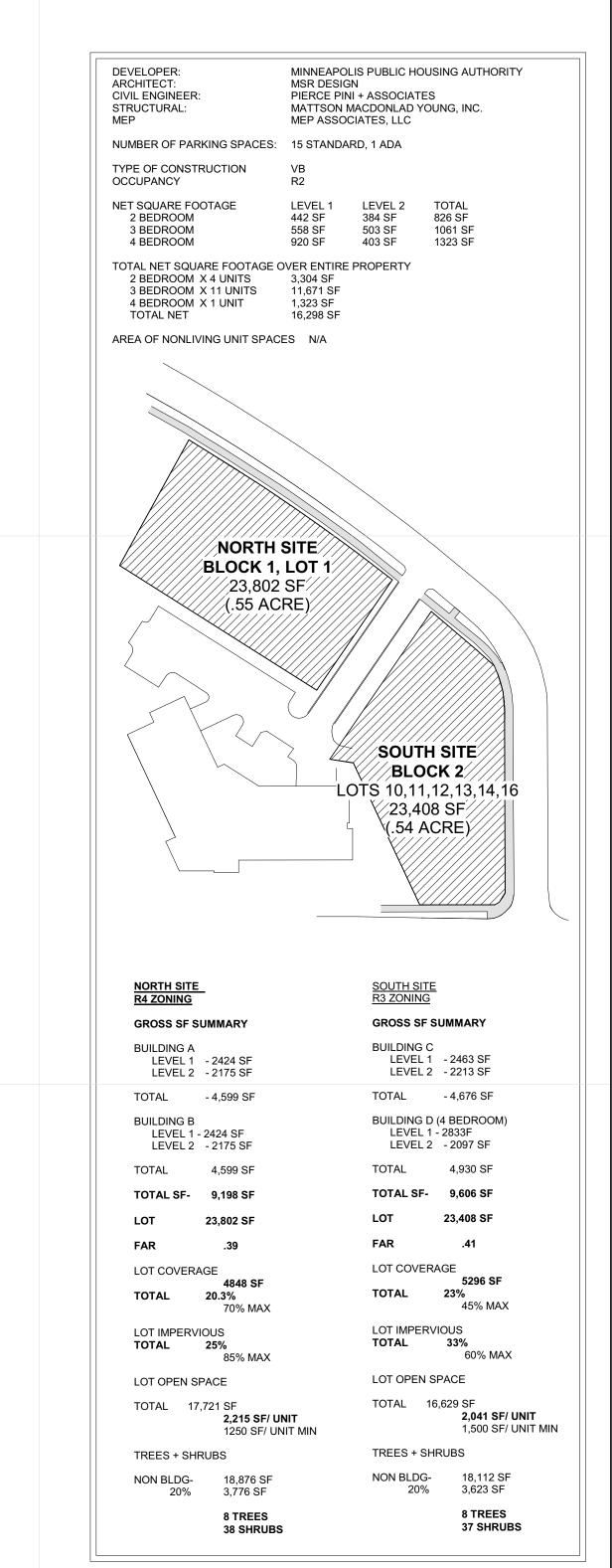


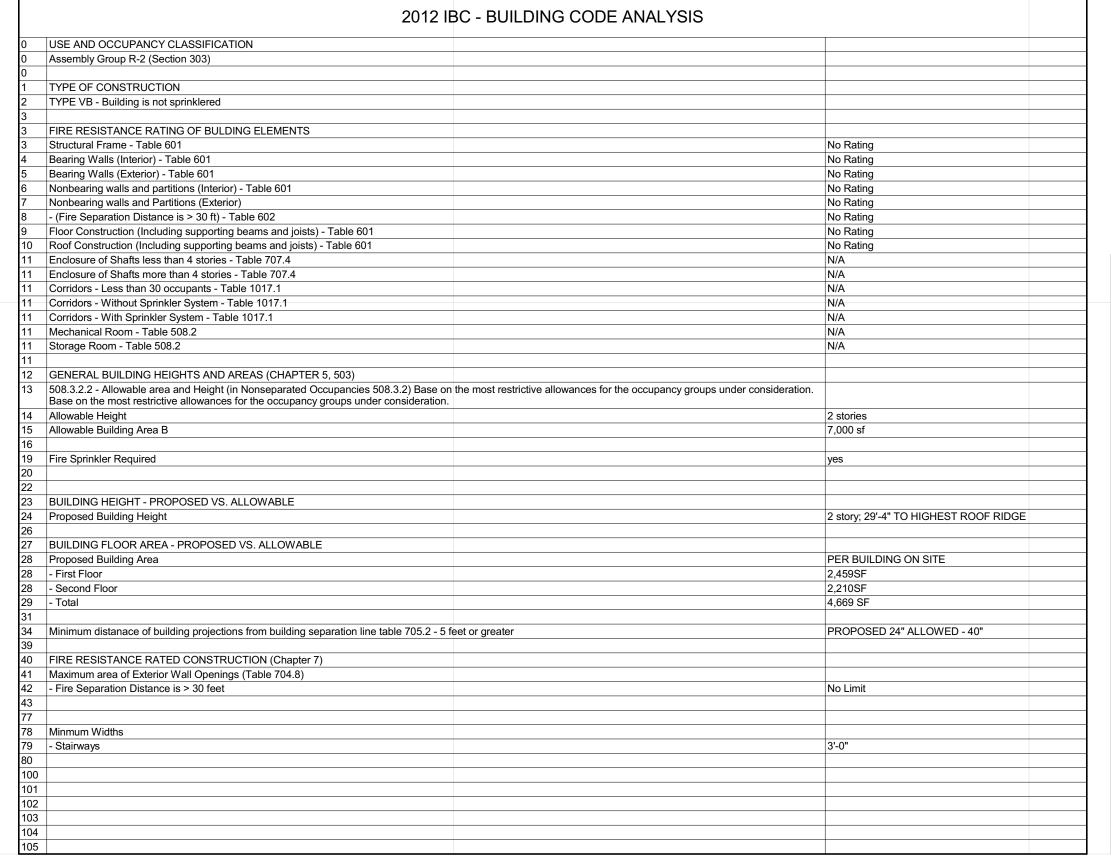
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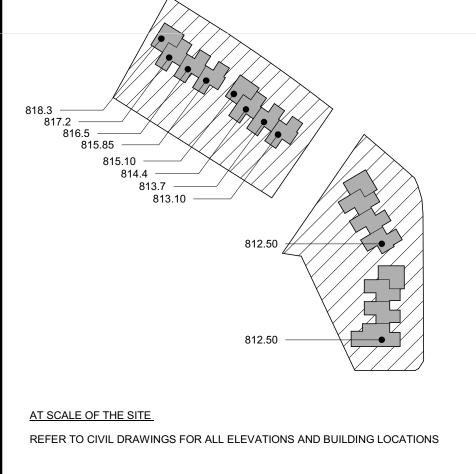


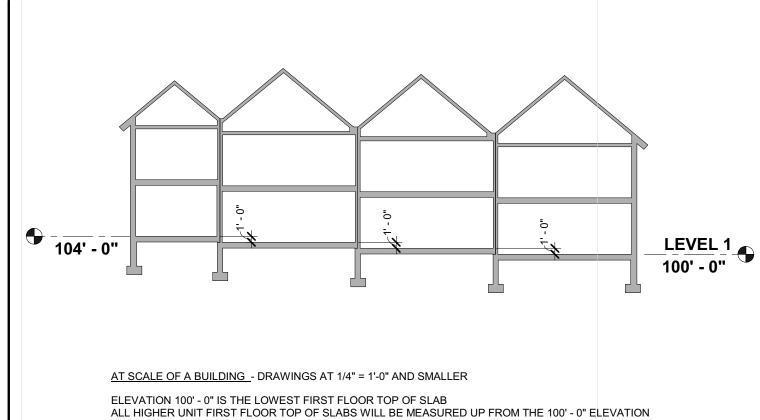


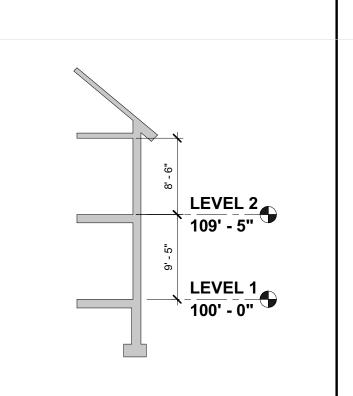












AT DETAIL SCALES - DRAWINGS AT 1/2" = 1'-0" AND LARGER
ELEVATION 100' - 0" IS THE TOP OF THE LOCAL LEVEL 1 SLAB

NOTE: IF A DETAIL SHOWS TWO UNITS WITH DIFFERENT TOP OF
SLAB ELEVATIONS, 100' - 0" WILL BE ASSIGNED TO THE LOWER
LEVEL 1 TOP OF SLAB

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MINNEAPOLIS, MN 55417

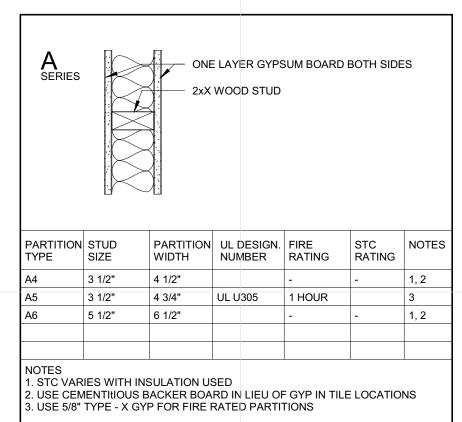
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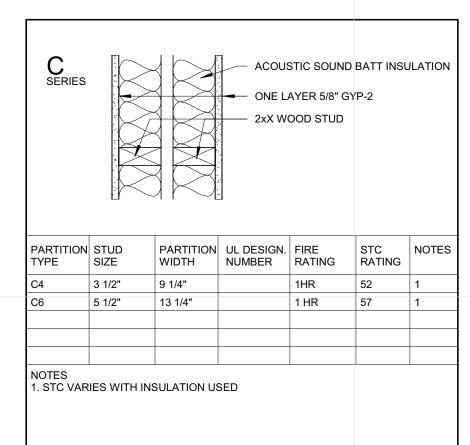
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Minnesota. ARCHITECT SEAL

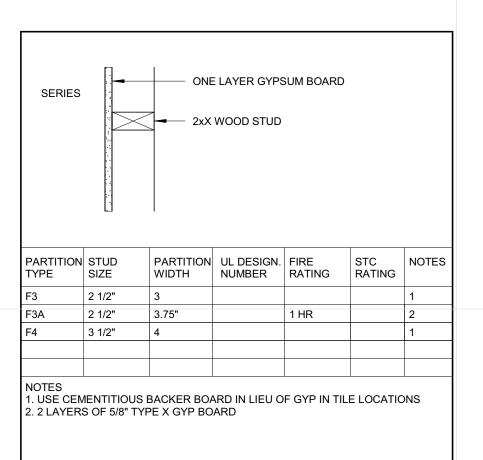
Signature: Print Names:-License No:\_ ISSUE MARK DATE DESCRIPTION 04.28.17 LAND USE APPLICATION 05.05.17 50% CD 05.26.17 GC 90% REVIEW SET 06.21.17 100% CD ISSUE PROJECT NO. 2016015 PROJECT PHAS 100% CD ISSUE P.LYNCH Checker

SHEET INDEX AND SYMBOLS

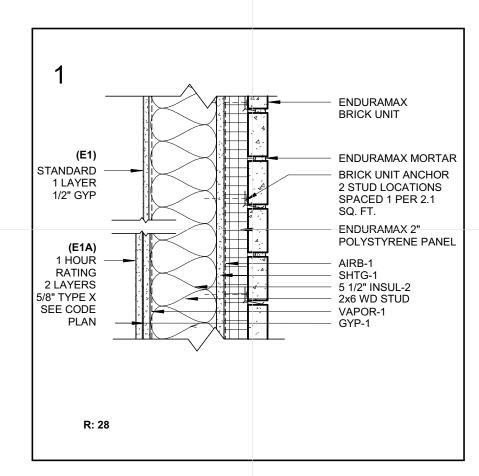
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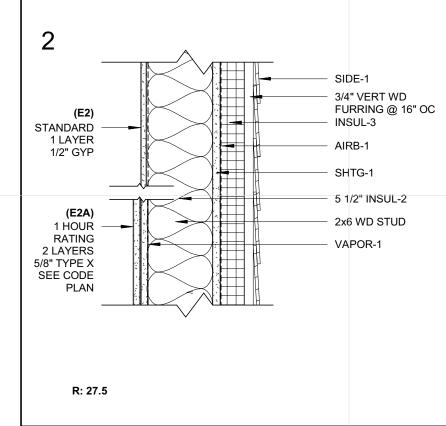






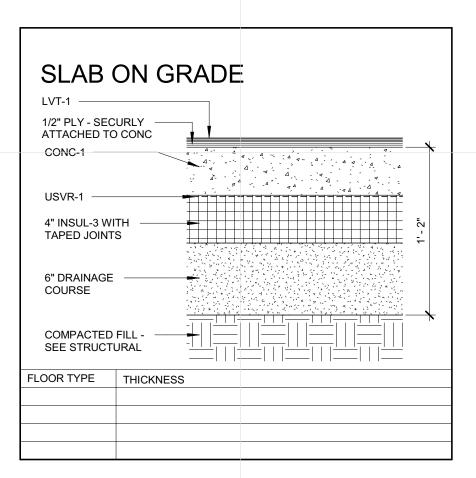
# WALL TYPES - PARTITION 1 1/2" = 1'-0"

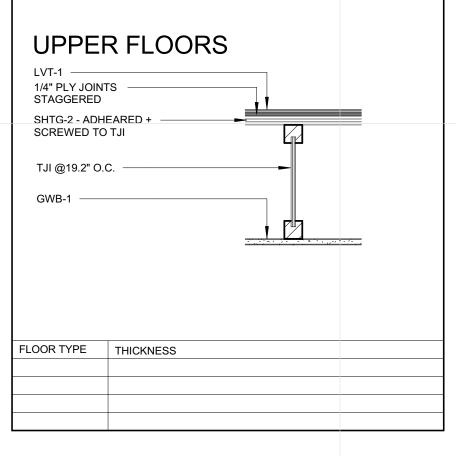


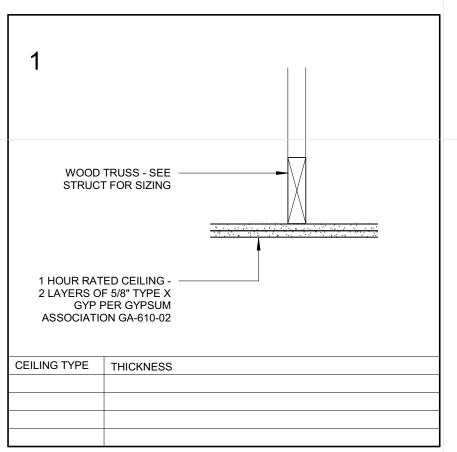


WALL TYPES - EXTERIOR

1 1/2" = 1'-0"







FLOOR SYSTEMS

1 1/2" = 1'-0"

CEILING SYSTEMS

1 1/2" = 1'-0"

SOME PARTITIONS DESCRIBED HERE MAY NOT BE USED ON THIS PROJECTS. SEE PLANS FOR SPECIFIC PARTITION TYPES USED.

INTERIOR PARTITIONS TYPES TO BE INDICATED BY XX
ON FLOOR PLANS.

**GENERAL NOTES** 

- 2. GAUGE, SPACING, AND PERFORMANCE REQUIREMENTS OF METAL STUDS TO BE DETERMINED BY SPECIFICATIONS UNLESS OTHERWISE NEEDED
- 3. TYPE "X" GYPSUM BOARD REQUIRED AT RATED PARTITIONS ONLY.
- 4. FIRE RATED OR ACOUSTICALLY RATED PARTITIONS TO EXTEND TO ROOF OR FLOOR DECK ABOVE UNLESS NOTED OTHERWISE. PROVIDE REQUIRED CLOSURE TO MAINTAIN FIRE OR ACOUSTICAL RATING. PROVIDE APPROPRIATE DEFLECTION JOINT AT TOP OF PARTITION TO ELIMINATE CRUSHING OF PARTITION.
- 5. AT NON-RATED PARTITIONS IN ROOMS WITH FINISHED CEILING, GYPSUM BOARD TO GO 6" ABOVE CEILING UNLESS NOTED OTHERWISE. AT NON-RATED PARTITIONS IN ROOMS WITHOUT FINISH CEILINGS, GYPSUM BOARD TO GO TO DECK UNLESS NOTED OTHERWISE.
- 6. PENETRATIONS IN FIRE RATED OR ACOUSTICAL RATED PARTITIONS AND CONNECTIONS TO THESE PARTITIONS BY OTHER PARTITIONS SHALL BE PER PARTITION MANUFACTURER'S WRITTEN RECOMMENDATIONS OR U.L REQUIREMENTS FOR FIRE TEST AND ACOUSTICAL TEST RATINGS.
- 7. REFER TO SPEC FOR BACKER AT PARTITIONS SCHEDULED TO RECEIVE
  CERAMIC TILE. PROVIDE TILE BACKER BOARD TO PARTITIONS IN SHOWERS,
  HIGH MOISTURE AREAS OR SIMILAR AREAS AND WHERE NOTED.
  INSTALLATION OF MOISTURE RESISTANT GYPSUM BOARD OR TILE BACKER
  BOARD SHALL NOT REDUCE FIRE OR ACOUSTICAL RATINGS FOR ANY PARTITION
- 8. ACOUSTICALLY RATED PARTITIONS SHALL HAVE CONTINUOUS SOUND BATT INSULATION AND ACOUSTICAL CAULKING UNLESS OTHERWISE NOTED. STAGGER JUNCTION BOXES A MINIMUM OF 2'-0" BETWEEN PENETRATIONS AT ACOUSTICALLY RATED OR FIRE RATED PARTITIONS

- 9. THERMALLY SEPARATED PARTITIONS SHALL HAVE VAPOR BARRIER AND THERMAL INSULATION AS SPECIFIED UNLESS OTHERWISE NOTED.
- 10. VERIFY WITH STRUCTURAL ALL NON-BEARTING MASONRY PARTITIONS THAT ARE NOT ADEQUATELY BRACED BY FIXED ELEMENTS PRIOR TO
- ERECTION.

  11. PROVIDE A MINIMUM OF 1'-0" OF SOLID MASONRY BETWEEN
  PENETRATIONS IN MASONRY PARTITIONS UNLESS OTHERWISE NOTED.
- 12. REFER TO STRUCTURAL DRAWINGS FOR INTERIOR STRUCTURAL PARTITIONS
- 13. PROVIDE BLOCKING AND BACKER SUPPORT FOR ALL EQUIPMENT
  ATTACHMENT AND MOUNTING. COORDINATE LOCATION OF BLOCKING AND
  BACKER MATERIAL WITH OWNER AND CONTRACTOR SUPPLIED
  EQUIPMENT PRIOR TO CONSTRUCTION OF PARTITION. SEE FURNITURE
  PLAN FOR FURNITURE LOCATIONS THAT REQUIRE BLOCKING.
- 14. STC RATINGS INDICATED MINIMUM WALL REQUIREMENTS WITH SOUND BATT INSULATION. REFER TO GYPSUM ASSOCIATION BULLETIN #500 AND THE UL MANUAL FOR DETAILED CONSTRUCTION TECHNIQUES TO ACHIEVE STC RATINGS.

MINNEHAHA
TOWNHOMES

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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 Architect under the Laws of the State of Minnesota. ARCHITECT SEAL

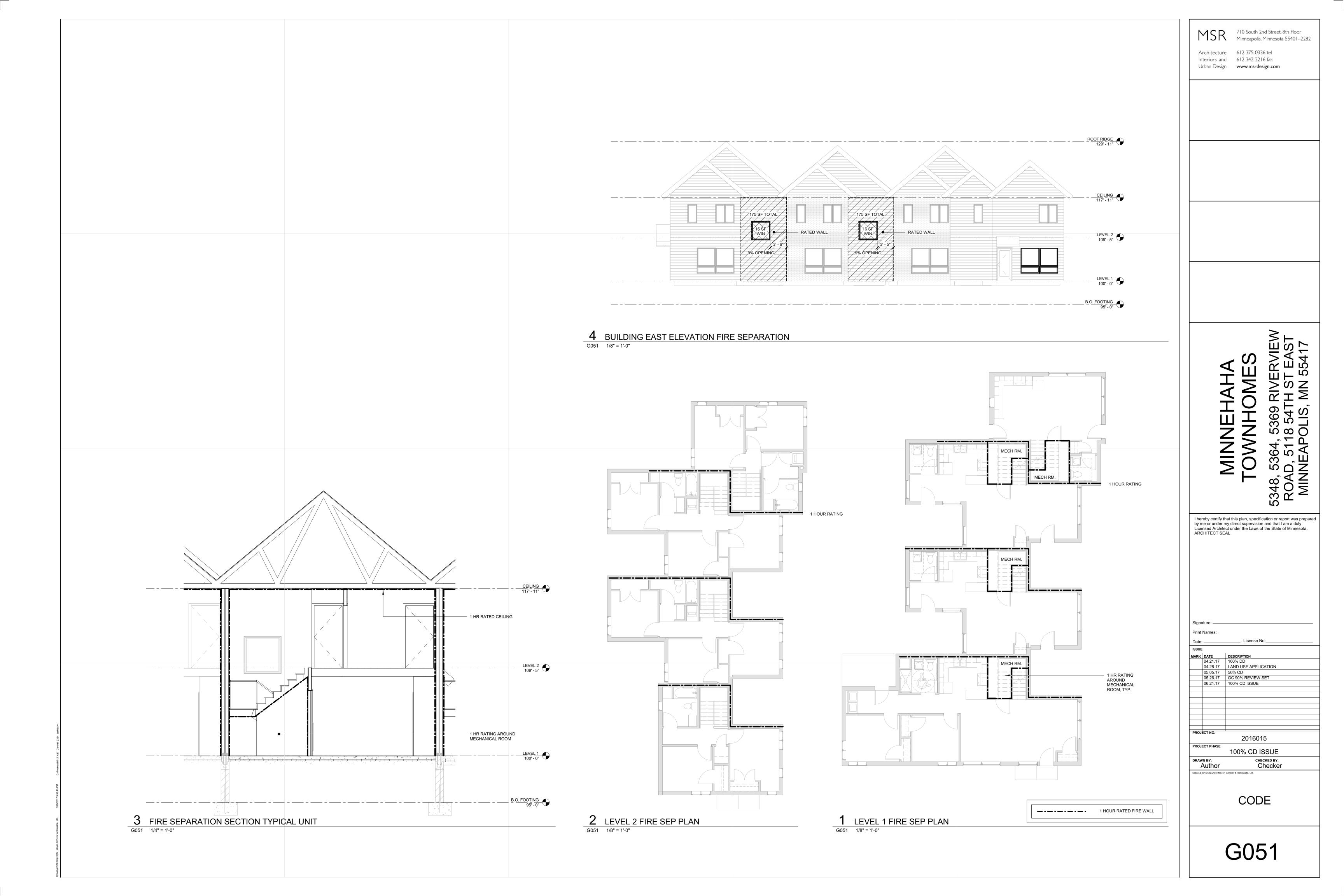
G002

TYPES AND

SYSTEMS







# EROSION CONTROL NOTES

- CONTRACTOR MUST CALL A CONSTRUCTION START 48 HOURS PRIOR TO ANY LAND DISTURBANCES (612) 673-3867. FAILURE TO DO SO MAY RESULT IN FINES, THE REVOCATION OF PERMIT AND A STOP WORK ORDER BEING ISSUED.
- 2. INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES. (HAY BALES ARE NOT AN ACCEPTABLE PERIMETER CONTROL)
- 3. REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. REMOVAL SHALL BE ON A DAILY BASIS WHEN TRACKING OCCURS AND MAY BE ORDERED BY MINNEAPOLIS INSPECTORS AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
- . INSTALL INLET PROTECTION AT ALL PUBLIC AND PRIVATE CATCH BASIN INLETS, WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CONTRACTOR SHALL CLEAN, REMOVE SEDIMENT OR REPLACE STORM DRAIN INLET PROTECTION DEVICES ON A ROUTINE BASIS SUCH THAT THE DEVICES ARE FULLY FUNCTIONAL FOR THE NEXT RAIN EVENT. SEDIMENT DEPOSITED IN AND/OR PLUGGING DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF THE CONTRACTOR. HAY BALES OR FILTER FABRIC WRAPPED GRATES ARE NOT ALLOWED FOR INLET PROTECTION.
- 5. LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES. TEMPORARY STOCKPILES LOCATED ON PAVED SURFACES MUST BE NO LESS THAN TWO FEET FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF LEFT MORE THAN 24 HOURS.
- 6. MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
- 7. TEMPORARILY OR PERMANENTLY STABILIZE ALL CONSTRUCTION AREAS WHICH HAVE UNDERGONE FINAL GRADING, AND ALL AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER WITHIN 7-14 DAYS. USE SEED AND MULCH, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. REMOVE ALL TEMPORARY SYNTHETIC. STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION WITH PERMANENT VEGETATION ESTABLISHMENT. FINAL STABILIZATION FOR PURPOSES OF THIS REMOVAL IS 70% ESTABLISHED COVER OVER DENUDED AREA.
- 8. READY MIXED CONCRETE AND CONCRETE BATCH/MIX PLANTS ARE PROHIBITED WITHIN THE PUBLIC RIGHT OF WAY. ALL CONCRETE RELATED PRODUCTION, CLEANING AND MIXING ACTIVITIES SHALL BE DONE IN THE DESIGNATED CONCRETE MIXING/WASHOUT LOCATIONS AS SHOWN IN THE EROSION CONTROL PLAN. UNDER NO CIRCUMSTANCE MAY WASHOUT WATER DRAIN ONTO THE PUBLIC RIGHT OF WAY OR INTO ANY PUBLIC OR PRIVATE STORM DRAIN CONVEYANCE.
- 9. CHANGES TO APPROVED EROSION CONTROL PLAN MUST BE APPROVED BY THE EROSION CONTROL INSPECTOR PRIOR TO MPLEMENTATION. CONTRACTOR TO PROVIDE INSTALLATION AND DETAILS FOR ALL PROPOSED ALTERNATE TYPE DEVICES.
- 10. IF DEWATERING OR PUMPING OF WATER IS NECESSARY, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND/OR APPROVALS PRIOR TO DISCHARGE OF ANY WATER FROM THE SITE. IF THE DISCHARGE FROM THE DEWATERING OR PUMPING PROCESS IS TURBID OR CONTAINS SEDIMENT LADEN WATER, IT MUST BE TREATED THROUGH THE USE OF SEDIMENT TRAPS, VEGETATIVE FILTER STRIPS, OR OTHER SEDIMENT REDUCING MEASURES SUCH THAT THE DISCHARGE IS NOT VISIBLY DIFFERENT FROM THE RECEIVING WATER. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE DISCHARGE POINT TO PREVENT SCOUR EROSION. THE CONTRACTOR SHALL PROVIDE A DEWATERING/PUMPING PLAN TO THE EROSION CONTROL INSPECTOR PRIOR TO INITIATING DEWATERING ACTIVITIES.
- 11. EROSION CONTROL SHALL BE PLACED ALONG THE PERIMETER OF THE SITE EXCAVATION. EROSION CONTROL SHALL BE PLACED SO IT DOES NOT DISTURB THE EXISTING PAVEMENT OR DRIVE LANES THAT ARE TO REMAIN. MANY METHODS OF EROSION CONTROL WILL WORK AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE MEASURE MOST APPROPRIATE TO THE SITE CONDITIONS AND THAT WHICH MEETS CITY OF MINNEAPOLIS AND MPCA STANDARDS. GRAPHICALLY SHOWN ON THE PLANS FOR CLARITY BUT SHALL BE PLACED IN THE MOST APPROPRIATE LOCATIONS NOT TO DAMAGE EXISTING PAVEMENT AND/OR CURBS TO REMAIN. DAMAGED PAVEMENT AND/OR CURBS SHALL BE PAID FOR SOLELY BY THE CONTRACTOR. SEE DETAILS AND SPECIFICATIONS.
- 12. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED, MINIMUM VEGETATION ESTABLISHMENT IS 70% COVER, MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES UNTIL 70% ESTABLISHED COVER IS ACHIEVED.
- 13. ALL EROSION CONTROL ELEMENTS ARE TEMPORARY. CONTRACTOR TO INSTALL EROSION CONTROL ELEMENTS PRIOR TO START OF LAND DISTURBING ACTIVITIES, MAINTAIN IN GOOD CONDITION DURING CONSTRUCTION AND REMOVE FROM THE SITE UPON COMPLETION OF FINAL PAVING AND TURF ESTABLISHMENT.
- 14. CONTRACTOR TO PROVIDE TEMPORARY SEED AND MULCH ON ALL NON-PAVED AREAS WITHIN 7 DAYS AFTER ROUGH GRADING IS COMPLETED. SEED WITH ANNUAL RYE SEED AT 60 LBS PER ACRE AND WOOD MULCH FIBER AT 45 LBS PER 1,000 SF.
- 15. CONTRACTOR TO PREVENT DIRT AND/OR DEBRIS FROM ENTERING STORM SEWER OR BEING TRANSPORTED OFF-SITE IN AN UNCONTROLLED MANNER. CONTRACTOR TO VERIFY AT PROJECT CLOSEOUT THAT STORM SEWER SYSTEM IS CLEAR OF SEDIMENT AND/OR DEBRIS AND IS FULLY FUNCTIONAL.
- 16. STRAWBALES ARE NOT ALLOWED ON SITE IN ANY CAPACITY.

# NOTES

- ALL EXISTING INFORMATION TAKEN FROM SURVEY BY KEMPER AND ASSOCIATES
- DATED FEBRUARY 7, 2017 2. A GEOTECHNICAL EXPLORATION AND ENGINEERING REVIEW WAS COMPLETED
- FOR THIS SITE BY NTI. PROJECT NO. 17.61872.100 DATED MARCH 10, 2017 CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING LOCATIONS OF EXISTING UTILITIES, AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION.
- 4. ALL AREAS DISTURBED BY CONSTRUCTION WHICH ARE OUTSIDE THE LIMITS OF PAVING ARE TO BE RESTORED AND REVEGITATED.
- 5. ALL UTILITY DEMOLITION AND/OR ABANDONMENT TO BE PERFORMED IN ACCORDANCE WITH CITY OF MINNEAPOLIS AND STATE OF MINNESOTA REGULATIONS AND STANDARDS.
- 6. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WHICH MAY INCLUDE BUT IS NOT LIMITED TO" ELECTRIC, TELEPHONE, GAS, CABLE TV, COMPUTER CABLE, FIBER OPTIC CABLE, SANITARY SEWER, STORM SEWER, STEAM, CONDENSATE, ELECTRICAL DUCT BANK AND WATERMAIN. CONTRACTOR TO CONTACT GOPHER ONE-CALL BEFORE EXCAVATING.
- 7. ALL EXISTING UTILITIES AND OTHER IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
- CONTRACTOR TO PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS, LANDSCAPING, STRUCTURES AND UTILITIES THAT ARE TO REMAIN. CONTRACTOR TO REPAIR ANY DAMAGE AT OWN EXPENSE.
- 9. ALL WORK TO CONFORM WITH CITY OF MINNEAPOLIS AND STATE OF MINNESOTA STANDARDS AND REGULATIONS.
- 10. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO STARTING CONSTRUCTION.
- 11. PROVIDE BARRICADES AT STREETS AND SIDEWALKS PER CITY OF MINNEAPOLIS REQUIREMENTS.
- 12. WASTE MATERIALS INCLUDING PAVEMENT REMOVED DURING CONSTRUCTION, WASTE PIPING AND SUPPLIES, CONSTRUCTION DEBRIS AND EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
- 13. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE CITY OF MINNEAPOLIS REQUIREMENTS.
- 14. WHEN WORKING AROUND EXISTING TELEPHONE OR ELECTRICAL POLES, THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
- 15. WHEN WORKING AROUND EXISTING UTILITIES THAT BECOME EXPOSED, THE CONTRACTOR SHALL PROVIDE SUFFICIENT SUPPORT TO PREVENT EXCESSIVE STRESS ON THE PIPING. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
- 16. ALL EXCAVATIONS MUST COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR. PART 1926, SUBPART P "EXCAVATIONS AND TRENCHES". THIS DOCUMENT STATES THAT EXCAVATION SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 17. CONTRACTOR SHALL COORDINATE WITH ARCHITECT'S AND MECHANICAL ENGINEER'S DRAWINGS TO VERIFY LOCATION, SIZE AND QUANTITY OF ALL UTILITY CONNECTIONS.
- 18. ALL MATERIALS FOR PROPOSED CONSTRUCTION OR REPAIR OF EXISTING FACILITIES SHALL BE NEW PRODUCTS DIRECT FROM THE FACTORY AND FREE FROM DEFECTS.
- 19. CONTRACTOR SHALL NOT BLOCK DRAINAGE FROM OR DIRECT EXCESS DRAINAGE ONTO ADJACENT PROPERTY.
- 20. PROVIDE THE FOLLOWING MINIMUM COVER OVER THE TOP OF PIPE AS FOLLOWS:
- A. 8' OVER WATER MAIN
- B. 5' OVER SANITARY SEWER
- C. 1' OVER STORM SEWER
- 21. MAXIMUM CROSS-SLOPES FOR SIDEWALKS AND ADA ACCESS ROUTES SHALL NOT EXCEED 2.00%. RAMPS SLOPES SHALL NOT EXCEED 1" PER FOOT (8.33%). MAXIMUM SLOPES FOR HANDICAP PARKING STALLS AND ACCESS AISLES SHALL NOT EXCEED 2.00% IN ANY DIRECTION.
- 22. PERMITS AND APPROVAL ARE REQUIRED FROM ENVIRONMENTAL SERVICES FOR THE FOLLOWING ACTIVITIES:
- AFTER HOURS WORK
- TEMPORARY STORAGE OF IMPACTED SOILS ON SITE PRIOR TO DISPOSAL OR
- REMEDIATION OF CONTAMINATED SOIL AND GROUNDWATER, REUSE OF IMPACTED SOILS ON SITE
- DEWATERING AND DISCHARGE OF ACCUMULATED STORM WATER OR GROUND WATER TO CITY SEWERS
- FLAMMABLE WASTE TRAPS, UNDERGROUND OR ABOVE GROUND TANK INSTALLATION OR REMOVAL
- WELL CONSTRUCTION OR SEALING
- ON-SITE ROCK CRUSHING.
- CONTACT TOM FRAME AT TOM.FRAME@CI.MINNEAPOLIS.MN.US OR (612) 673-5807, FOR PERMIT APPLICATIONS AND APPROVALS.
- 22. NO CONSTRUCTION, DEMOLITION OR COMMERCIAL POWER MAINTENANCE EQUIPMENT SHALL BE OPERATED WITHIN THE CITY BETWEEN THE HOURS OF 6:00 PM AND 7:00 AM ON WEEKDAYS OR DURING ANY HOURS ON SATURDAYS, SUNDAYS AND STATE AND FEDERAL HOLIDAYS, EXCEPT UNDER PERMIT. CONTACT ENVIRONMENTAL SERVICES AT (612) 673-3867 FOR PERMIT INFORMATION.
- 23. ANY CONCRETE CONSTRUCTION WORK WITHIN THE PUBLIC RIGHT-OF-WAY MUST BE PERFORMED BY A LICENSED AND BONDED CONCRETE CONTRACTOR.
- 24. A \$15,000 SIDEWALK CONTRACTOR'S BOND MUST BE OBTAINED FROM PUBLIC WORKS SIDEWALK INSPECTIONS PRIOR TO THE START OF ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY. PLEASE LOG ON TO: WWW.SIDEWALK.MPLS.MNROWAY.NET AND FOLLOW THE INSTRUCTIONS ON THE
- 25. A SIDEWALK CONSTRUCTION PERMIT MUST BE OBTAINED PRIOR TO THE START OF ANY WORK IN THE PUBLIC RIGHT-OF-WAY. LOG ON TO: WWW.SIDEWALK.MPLS.MN.ROWAY.NET FOR A PERMIT.
- PERFORMED IN THE PUBLIC RIGHT-OF-WAY. PLEASE CONTACT SCOTT KRAMER AT (612) 673-2383 REGARDING DETAILS OF SIDEWALK AND LANE CLOSURES. LOG ON TO <a href="http://minneapolis.mn.roway.net">http://minneapolis.mn.roway.net</a> FOR A PERMIT.
- 27. ALL COSTS FOR RELOCATION AND/OR REPAIR OF CITY FACILITIES SHALL BE BORNE BY THE CONTRACTOR AND/OR PROPERTY OWNER.

26. AN OBSTRUCTION PERMIT IS REQUIRED ANYTIME CONSTRUCTION WORK IS

28. PRIOR TO STARTING ANY CONSTRUCTION, CALL THE FORESTRY PRESERVATION COORDINATOR (FPC) TO DETERMINE IF A TREE WORK PERMIT IS NEEDED AND

- TO ENSURE THAT PUBLIC TREES ARE PROTECTED OR COMPENSATED FOR. A PUBLIC TREE IS ANY TREE THAT IS GROWING IN THE BOULEVARD OR PUBLIC RIGHT-OF-WAY AS WELL AS ON ANY OTHER MUNICIPAL PUBLIC PROPERTY.
- 29. IT IS ILLEGAL TO REMOVE. PRUNE OR PLANT A PUBLIC TREE PER ORDINANCE WITHOUT RECEIVING A PERMIT FROM THE MPRB. REMOVAL, PRUNING AND PLANTING VIA PERMIT MUST CONFORM TO MPRB FORESTRY DIVISION SPECIFICATIONS.
- 30. TREE WORK THAT OCCURS ON PUBLIC TREES WITHOUT A PERMIT WILL BE STOPPED AND THE POLICE WILL BE NOTIFIED. IF NECESSARY, COMPENSATION THAT RESULTS FROM ILLEGAL TREE WORK WILL BE COLLECTED THROUGH LITIGATIONS.
- 31. PUBLIC TREES HAVE A MONETARY VALUE. THE ROOT ZONE, TRUNK AND BRANCHES OF ALL PUBLIC TREES GROWING WITHIN THE PUBLIC RIGHT-OF-WAY NEED TO BE PROTECTED WITH CONSTRUCTION FENCE THAT EXTENDS AS FAR AS THE SPREAD OF THE OUTER MOST BRANCHES. IF A PUBLIC TREE CAN NOT BE PRESERVED, COMPENSATION WILL BE REQUIRED FOR THE VALUE OF THE TREE OR DAMAGE TO IT.
- 32. IF A CRANE IS USED ON SITE AND IS WITHIN 50 FEET OF A PUBLIC TREE, THE FORESTRY PRESERVATION COORDINATOR (FPC) NEEDS TO BE NOTIFIED.
- 33. MULCH PLACED AROUND EXISTING OR NEWLY PLANTED PUBLIC TREES MUST BE WOOD CHIPS AND MUST NOT TOUCH THE TRUNK OF THE TREE.
- 34. CONTACT PAUL MARTINSON (612) 221-9295 REGARDING REMOVAL OR PROTECTION OF TREES IN THE CITY RIGHT OF WAY.
- 35. CONTACT DOUG MADAY AT (612) 673-5755 PRIOR TO CONSTRUCTION FOR THE REMOVAL OF ANY CITY OF MINNEAPOLIS RIGHT OF WAY SIGNS THAT MAY BE IN THE WAY OF CONSTRUCTION.
- 36. AN ENCROACHMENT PERMIT SHALL BE REQUIRED FOR ALL STREETSCAPE ELEMENTS IN THE PUBLIC RIGHT-OF-WAY SUCH AS: PLANTS & SHRUBS, PLANTERS, TREE GRATES AND OTHER LANDSCAPING ELEMENTS, SIDEWALK FURNITURE (INCLUDING BIKE RACKS AND BOLLARDS), AND SIDEWALK ELEMENTS OTHER THAN STANDARD CONCRETE WALKWAYS SUCH AS PAVERS, STAIRS, RAISED LANDINGS, RETAINING WALLS, ACCESS RAMPS, AND RAILINGS (NOTE: RAILINGS MAY NOT EXTEND INTO THE SIDEWALK PEDESTRIAN AREA). PLEASE CONTACT BOB BOBLETT AT (612) 673-2428 FOR FURTHER INFORMATION.
- 37. ANY ELEMENTS OF AN EARTH RETENTION SYSTEM AND RELATED OPERATIONS (SUCH AS CONSTRUCTION CRANE BOOM SWINGS) THAT FALL WITHIN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE AN ENCROACHMENT PERMIT APPLICATION. IF THERE ARE TO BE ANY EARTH RETENTION SYSTEMS WHICH WILL EXTEND OUTSIDE THE PROPERTY LINE OF THE DEVELOPMENT THEN A PLAN MUST BE SUBMITTED SHOWING DETAILS OF THE SYSTEM. ALL SUCH ELEMENTS SHALL BE REMOVED FROM THE PUBLIC RIGHT-OF-WAY FOLLOWING CONSTRUCTION WITH THE EXCEPTION OF TIE-BACKS WHICH MAY REMAIN BUT MUST BE UNCOUPLED AND DE-TENSIONED. PLEASE CONTACT BOB BOBLETT AT (612) 673-2428 FOR FURTHER INFORMATION.
- 38. CARE MUST BE TAKEN DURING CONSTRUCTION AND EXCAVATION TO PROTECT ANY SURVEY MONUMENTS AND/OR PROPERTY IRONS.
- 39. DRAWINGS DO NOT INDICATE AREAS OF TEMPORARY SUPPORT SYSTEMS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS AND WILL HAVE TOTAL CONTROL OVER THE TYPES AND DESIGN OF ALL SHORING, SHEETING, BRACING, ANCHORAGES, EXCAVATION SUPPORT WALLS, DIRECTIONAL BORING, AUGER JACKING. SOIL STABILIZATION AND OTHER METHODS OF PROTECTING EXISTING IMPROVEMENTS. SEE SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
- 40. CONTRACTOR TO RECORD EXISTING CONDITIONS AS NEEDED (PHOTOGRAPHS, VIDEO PHOTOGRAPHY, FIELD SURVEYING, ETC.) TO ENABLE RECONSTRUCTION TO MATCH EXISTING CONDITIONS AS REQUIRED. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS SO THAT RECONSTRUCTED AREAS WILL HAVE POSITIVE DRAINAGE SIMILAR TO EXISTING.
- 41. WHERE DEMOLITION, EXCAVATION, UNDERPINNING, PILE DRIVING, COMPACTING OR SIMILAR WORK IS TO BE PERFORMED ADJACENT TO OR IN THE IMMEDIATE VICINITY OF EXISTING STRUCTURES, THE OWNER WILL PROVIDE BUILDING SURVEYS AND SEISMIC MONITORING. CONTRACTOR SHALL COORDINATE MONITORING OF BUILDING AND KEEPING OWNER INFORMED OF OPERATIONS THAT MAY IMPACT SENSITIVE PROJECTS OR STRUCTURES.
- 42. PLEASE CONTACT BILL PRINCE AT (612) 673-3901 REGARDING EXISTING AND PROPOSED STREET LIGHTING. ALL STREET LIGHTING (EXISTING AND PROPOSED) SHALL BE SHOWN CLEARLY ON THE SITE PLAN.
- 43. ACCESS TO FIRE DEPARTMENT APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE ENTIRETY OF THE PROCESS.
- 44. CONTACT ALLAN KLUGMAN AT (612) 673-2743 PRIOR TO CONSTRUCTION FOR THE TEMPORARY REMOVAL/RELOCATION OF ANY CITY OF MINNEAPOLIS LIGHTING OR TRAFFIC SIGNAL SYSTEM THAT MAY BE IN THE WAY OF CONSTRUCTION.
- 45. STREET LIGHTING INSTALLED AS PART OF THIS PROJECT SHALL BE INSPECTED BY THE CITY. CONTRACTORS SHALL ARRANGE FOR INSPECTIONS WITH THE TRAFFIC DEPARTMENT. CONTACT DAVE PREHALL AT (612) 673-5759 FOR FURTHER INFORMATION. ANY LIGHTING INSTALLATIONS NOT MEETING CITY SPECIFICATIONS WILL BE REQUIRED TO BE3 REINSTALLED AT OWNER EXPENSE.
- 46. STREET LIGHTING INSTALLED AS PART OF THE PROJECT SHALL BE INSPECTED BY THE CITY. CONTRACTORS SHALL ARRANGE FOR INSPECTIONS WITH THE TRAFFIC DEPARTMENT, PLEASE CONTACT DAVE PREHALL AT (612) 673-5759 FOR FURTHER INFORMATION. ANY LIGHTING INSTALLATION NOT MEETING CITY SPECIFICATIONS WILL BE REQUIRED TO BE REINSTALLED AT OWNER EXPENSES.
- 47. AN OBSTRUCTION PERMIT IS REQUIRED ANYTIME CONSTRUCTION WORK IS PERFORMED IN THE PUBLIC RIGHT-OF-WAY. PLEASE CONTACT SCOTT KRAMER AT (612) 673-2383 REGARDING DETAILS OF SIDEWALK AND LANE CLOSURES. LOG ON TO HTTP//MINNEAPOLIS.MN.ROWAY.NET/ FOR A PERMIT
- 48. ANY METERED PARKING SPACES NEEDED TO FACILITATE PROJECT WORK MUST BE HOODED AT PROJECT EXPENSES FOR THE LENGTH OF DISRUPTION REQUIRED. IF SIDEWALK IS REMOVED AND PARKING LANE IS CLOSED, THE METER AND SPACE DELINEATORS MUST BE REMOVED AND REINSTALLED UPON PROJECT COMPLETION AT PROJECT EXPENSES. THIS CAN BE REQUESTED AT THE SAME TIME THAT THE "OBSTRUCTION PERMIT" IS OBTAINED VIA HTTP//MINNEAPOLIS.MN.ROWAY.NET/ CONTACT SCOTT KRAMER AT (612) 673-2383 SCOTT.KRAMER.@MINNEAPOLISMN.GOV IF YOU HAVE ANY QUESTIONS REGARDING OBSTRUCTION PERMITS OF METER REMOVAL.
- 49. CONTACT ALLAN KLUGMAN AT (612)673-2743 PRIOR TO CONSTRUCTION FOR THE TEMPORARY REMOVAL/TEMPORARY RELOCATION OF ANY CITY OF MINNEAPOLIS LIGHTING OR TRAFFIC SIGNAL SYSTEM THAT MAY BE IN THE WAY OF CONSTRUCTION.
- 50. PAVEMENT MARKINGS THAT EXIST PRIOR TO THE START OF THE PROJECT MUST BE RE-PLACED. IN KIND. IF IT IS LATEX OR EPOXY PAINT THEN IT MUST GO BACK IN WITH THE TYPE OF PAINT UNLESS OTHERWISE DIRECTED BY CITY OF MINNEAPOLIS TRAFFIC DIVISION. ALL COSTS ASSOCIATED WITH THE PAVEMENT MARKING REPLACEMENT SHALL BE BORNE BY THE CONTRACTOR AND/OR PROPERTY OWNER.
- 51. ALL COSTS FOR RELOCATION AND/OR REPAIR OF CITY TRAFFIC FACILITIES INCLUDING TRAFFIC SIGNALS SYSTEMS, STREET LIGHTING, TRAFFIC SIGNS, PARKING METERS, AND PAVEMENT MARKINGS SHALL BE BORNE BY THE CONTRACTOR AND/OR PROPERTY OWNER.
- 52. CONTACT DOUG MEDAY AT (612)673-5755 PRIOR TO CONSTRUCTION FOR THE REMOVAL OF ANY CITY OF MINNEAPOLIS RIGHT OF WAY SIGNS OR PAVEMENT MARKINGS THAT MAY BE IN THE WAY OF CONSTRUCTION.

# CONSTRUCTION SEQUENCING AND INSPECTION OF EROSION AND SEDIMENT CONTROL PRACTICES FOR STORMWATER MANAGEMENT SYSTEMS

- A. OBTAIN PERMITS FOR SITE WORK FROM CITY OF MINNEAPOLIS AND ALL GOVERNING AUTHORITIES WITH JURISDICTION IN THIS CONSTRUCTION AREA.
- B. INSTALL EROSION CONTROL AND TREE PROTECTION ALONG PERIMETER OF SITE. INSTALL EROSION CONTROL INSERTS AT ALL CATCHBASINS AND MANHOLES AND CONSTRUCT ROCK CONSTRUCTION ENTRANCE. SEE EROSION CONTROL NOTES FOR FURTHER INSTRUCTION.
- C. PROCEED WITH SITE DEMOLITION, GRADING AND CONSTRUCTION.
- D. MAINTAIN EROSION CONTROL BMP'S AND CONTROL RUNOFF REQUIREMENTS AS OUTLINED ON DRAWING AND SPECIFICATIONS.
- E. ALL SITE WORK SHOULD BE COMPLETE PRIOR TO WORK ON THE INFILTRATION AREAS BEING STARTED TO THE EXTENT POSSIBLE. IF CONSTRUCTION OF THESE AREAS NEEDS TO OCCUR PRIOR TO FINAL SITE STABILIZATION, THEN THE CONSTRUCTED AREA MUST BE PROTECTED AND CONTRIBUTING FLOWS NEED TO BE FILTERED TO PREVENT CLOGGING OF THE SYSTEM OR COMPACTION OF THE INFILTRATION AREA. THE STORMWATER MANAGEMENT SYSTEMS NEED TO BE PROTECTED FROM EROSION AND SEDIMENT AND VEHICULAR OR FOOT TRAFFIC AND EQUIPMENT LAYDOWN. A FENCE WILL BE REQUIRED AROUND ITS PERIMETER TO KEEP THE AREA OF THE POND PROTECTED.
- F. SHOP DRAWINGS OF ALL SYSTEMS NEED TO BE APPROVED PRIOR TO CONSTRUCTION. ALL SOIL MATERIAL TESTING SHALL BE DONE PRIOR TO INSTALLATION TO ENSURE SOIL MIXTURE IS ADEQUATE FOR INFILTRATION. TESTS SHALL BE SUBMITTED TO ENGINEER AND APPROVED PRIOR TO INSTALLATION. SPECIFICATIONS INDICATE MATERIALS REQUIRED FOR EACH SYSTEM.
- G. NOTIFY CIVIL ENGINEER, CITY OF MINNEAPOLIS AND MINNEHAHA CREEK WATERSHED DISTRICT OF WORK BEING DONE ON STORMWATER SYSTEMS AND THE SCHEDULE OF CONSTRUCTION. ALLOW A MINIMUM OF FIVE WORKING DAYS FOR NOTIFICATION, SO ENGINEER CAN CONDUCT SITE MEETING TO DISCUSS THE INTENT OF THE SYSTEM AND SO CONSTRUCTION OBSERVATION CAN BE SCHEDULED ACCORDINGLY. SITE MEETING TO REVIEW THE INTENT OF THE DESIGN AND THE CONSTRUCTION OF THE INFILTRATION SYSTEM NEEDS TO OCCUR PRIOR TO STARTING CONSTRUCTION ON THE SYSTEM.
- H. MAINTAIN EROSION AND SEDIMENT CONTROL ON CONTRIBUTING AREAS TO AVOID CLOGGING OF SYSTEM.

J. COMPLETE CONSTRUCTION OF PARKING AND SIDEWALKS AFTER

STORMWATER SYSTEM IS INSTALLED. AFTER PAVEMENT IS

- I. CONSTRUCT STORMWATER SYSTEMS PER DRAWINGS AND SPECIFICATIONS.
- INSTALLED, VERIFY THAT INFILTRATION SYSTEMS ARE CLEAR AND FULLY FUNCTIONAL. VACUUM AND CLEAN SYSTEMS AS NEEDED SO THEY ARE FULLY FUNCTIONAL AT PROJECT CLOSEOUT. K. INSTALL LANDSCAPING AND PLANTING MATERIALS PER LANDSCAPE
- DRAWINGS AND SPECIFICATIONS.
- L. REMOVE ALL TEMPORARY EROSION CONTROL BMP'S AFTER PAVING AND INFILTRATION AREAS ARE COMPLETE AND AFTER TURF HAS BEEN ESTABLISHED. M. CONTRACTOR SHALL TAKE PHOTOGRAPHS AND MEASUREMENTS OF ALL STORMWATER MANAGEMENT SYSTEMS THROUGHOUT
- CONSTRUCTION DOCUMENTATION OF CONSTRUCTION SHALL RE SUBMITTED TO THE CIVIL ENGINEER AT THE CLOSEOUT OF THE PROJECT. CLOSEOUT DOCUMENTATION SHALL INCLUDE PHOTOGRAPHS AND MEASUREMENTS OF SYSTEM DURING CONSTRUCTION, TESTING REPORTS AND OBSERVATIONS AND REDLINE DRAWINGS OF ANY FIELD MODIFICATIONS MADE DURING CONSTRUCTION.
- N. A LETTER WRITTEN ON COMPANY LETTERHEAD THAT THE STORMWATER MANAGEMENT PRACTICES HAVE BEEN BUILT PER THE CIVIL PLANS, OR PER REDLINE FIELD DRAWINGS, SHALL BE SUBMITTED TO THE CIVIL ENGINEER AT THE CLOSEOUT OF THE
- O. THE CONTRACTOR SHALL SUBMIT AN AS-BUILT SURVEY OF THE COMPLETED SITE PREPARED AND SIGNED BY A LICENSED SURVEYOR TO THE CIVIL ENGINEER AT THE END OF THE PROJECT. AS-BUILT SURVEY SHALL INCLUDE ENOUGH INFORMATION TO VERIFY THE CONSTRUCTED TOPOGRAPHY, UTILITY AND SITE ELEMENTS. COORDINATE WITH OWNER AND CIVIL ENGINEER FOR SCHEDULE FOR WHEN THIS SHALL BE COMPLETED.
- P. REMOVE ALL TEMPORARY FROSION CONTROL BMP'S AFTER PAVING AND INFILTRATION AREAS ARE COMPLETE AND AFTER TURF HAS BEEN ESTABLISHED.

## **I FGFND** EXISTING OVERHEAD UTILITY ST EXISTING STORM SEWER LINE - EXISTING CONTOUR LINE EXISTING SANITARY SEWER LINE EXISTING CURB LINE EXISTING EASEMENT LINE EXISTING RETAINING WALL X X X X EXISTING FENCELINE EXISTING UNDERGROUND TELEPHONE LINE EXISTING UNDERGROUND TELEVISION LINE EXISTING GAS MAIN/SERVICE P₽♠ EXISTING POWERPOLE EXISTING CATCH BASIN CB() CB $STMH(\cdot)$ EXISTING STORM MANHOLE SSMH(·) EXISTING STANITARY MANHOLE $WMH(\cdot)$ EXISTING WATER MANHOLE EXISTING WATER VALVE $\mathbb{W} \mathbb{V} \otimes$ EXISTING FIRE HYDRANT FH/O EXISTING MANHOLE LP $\varnothing$ EXISTING LIGHT POLE EXISTING CLEANOUT CO o EM E EXISTING ELECTRIC METER GM G EXISTING GAS METER EXISTING AIR CONDITIONER . EXISTING SIGN EXISTING ADA PARKING STALL EXISTING SURVEY MONUMENT **EXISTING TREE** 254 PROPOSED CONTOUR $+ \overline{54.5}$ PROPOSED SPOT ELEVATION DENOTES SURFACE DRAINAGE PROPOSED EGRESS — — — PROPOSED SAWCUT LINE X EXISTING UTILITY TO BE REMOVED EXISTING UTILITY TO BE REMOVED PROPOSED STORM SEWER PROPOSED SANITARY SEWER PROPOSED WATERMAIN — PROPOSED DRAINTILE PROPOSED TRENCH DRAIN PROPOSED CATCH BASIN PROPOSED MANHOLE co° PROPOSED CLEAN OUT PROPOSED DOWNSPOUT PROPOSED ROOF DRAIN PROPOSED HYDRANT PROPOSED GATE VALVE PROPOSED FIRE DEPARTMENT CONNECTION PROPOSED FLARED END SECTION W/ RIPRAP PROPOSED POST INDICATOR VALVE PROPOSED RETAINING WALL SILT FENCE EROSION CONTROL AT CB/MH EXISTING TREE TO BE REMOVED PROPOSED BITUMINOUS PAVING

PROPOSED CONCRETE PAVING

PROPOSED CONCRETE SIDEWALK

PROPOSED CONSTRUCTION ENTRANCE

Architecture 612 375 0336 tel Interiors and 612 342 2216 fax Urban Design www.msrdesign.com CIVIL ENGINEER PIERCE PINI ASSOCIATES, INC. 9298 Central Avenue NE Blaine, MN 55434-3425 Office Phone: 763-537-1311 Office Fax: 763-537-1354

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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.

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RHONDA S. PIERCE \_\_\_ License No: 41333 
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 DATE
 DESCRIPTION

 04-07-2017
 PDR SUBMITTAL

 04-10-2017
 MCWD SUBMITTAL

04-21-2017 100% DD 05-08-2017 50% CD 05-26-2017 GC 90% REVIEW SET 06-21-2017 100% CD ISSUE 17-003 PROJECT PHAS

**GENERAL NOTES** AND LEGEND

DRAWN BY:

CLG

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RSP

# SWPPP NARRATIVE - EROSION AND SEDIMENT CONTROL

A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED AS PART OF THE GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)/STATE DISPOSAL SYSTEM (SDS) FOR SITES OVER ONE ACRE OF DISTURBANCE. THIS PERMIT IS ISSUED BY THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA). A PERMIT FROM THE MPCA IS REQUIRED FOR THIS PROJECT,

THE GOAL OF POLLUTION PREVENTION EFFORTS DURING PROJECT CONSTRUCTION IS TO CONTROL SOIL AND POLLUTANTS ON THE SITE AND PREVENT THEM FROM LEAVING THE PROJECT SITE AND FLOWING TO SURFACE WATERS. THE PURPOSE OF THIS SWPPP IS TO PROVIDE GUIDELINES FOR ACHIEVING THAT GOAL. THE SWPPP MUST BE KEPT ONSITE AND UPDATED AS NECESSARY DURING THE COURSE OF CONSTRUCTION TO KEEP IT CURRENT WITH ANY MODIFICATIONS TO THE POLLUTION CONTROL MEASURES BEING UTILIZED.

THE PROJECT IS LOCATED AT 5348, 5364, AND 5368 RIVERVIEW ROAD AND 5118 54TH STREET EAST MINNEAPOLIS, MN.

THIS PROJECT CONSISTS OF THE DEMOLITION OF THE EXISTING ALLEYWAY AND UTILITIES. THE PROPOSED CONSTRUCTION WILL CONSIST OF TWO SETS OF FOUR TOWNHOUSES ON EACH OF THE TWO SITES WITH ASSOCIATED CONCRETE SIDEWALK AND BITUMINOUS PAVEMENTS.

THE PROPOSED STORMWATER MANAGEMENT DESIGN WILL MEET THE REQUIREMENTS OF THE CITY OF MINNEAPOLIS AND THE MINNEHAHA CREEK WATERSHED DISTRICT. THIS PROJECT IS NOT REQUIRED TO MEET THE MPCA PERMANENT STORMWATER MANAGEMENT REQUIREMENTS BECAUSE THE INCREASE IN IMPERVIOUS AREA IS LESS THAN ONE ACRE. THE STORMWATER MANAGEMENT FEATURES THAT WILL BE UTILIZED AS PART OF THIS PROJECT ARE A UNDERGROUND CORRUGATED METAL PIPE FILTRATION GALLERY UNDER THE PARKING SPACES. INFILTRATION IS NOT POSSIBLE ON SITE DUE TO THE HIGH ELEVATION OF BEDROCK.

#### DISCHARGE TO SPECIAL OR IMPAIRED WATERS WITHIN ONE MILE OF SITE

-THIS PROJECT DISCHARGES TO MINNEHAHA CREEK AND THE MISSISSIPPI RIVER. THE MISSISSIPPI RIVER SEGMENT HAS NO CONSTRUCTION RELATED IMPAIRMENTS, THEREFORE NO ADDITIONAL BMPS ARE REQUIRED. MINNEHAHA CREEK IS LISTED AS AN IMPAIRED WATER ON THE MPCA'S 303(D) IMPAIRED WATERS LIST FOR CHLORIDE, FECAL COLIFORM, FISHES BIOASSESSMENTS, DISSOLVED OXYGEN. THESE IMPAIRMENTS ARE CONSIDERED CONSTRUCTION RELATED PARAMETERS AND BECAUSE THESE WATERS ARE LOCATED WITHIN ONE MILE OF THE SITE, BMPS AS DEFINED IN THE NPDES PERMIT C.1 AND C.2 IN APPENDIX A APPLY. THESE ARE AS FOLLOWS:

#### C.1 DURING CONSTRUCTION.

- A. STABILIZATION OF ALL EXPOSED SOIL AREAS MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION BUT IN NO CASE COMPLETED LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- B. TEMPORARY SEDIMENT BASIN REQUIREMENTS DESCRIBED IN PART III.C MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME.

#### C.2. POST CONSTRUCTION.

- A. THE WATER QUALITY VOLUME THAT MUST BE RETAINED ON SITE BY THE PROJECT'S PERMANENT STORMWATER MANAGEMENT SYSTEM DESCRIBED IN PART III.D SHALL BE ONE (1) INCH OF RUNOFF FROM THE NEW IMPERVIOUS SURFACES CREATED BY THE PROJECT. SEE PART III.D.1. FOR MORE INFORMATION ON INFILTRATION DESIGN, PROHIBITIONS AND APPROPRIATE SITE CONDITIONS.
- THE REQUIREMENT IN SECTION C.2 DOES NOT APPLY BECAUSE THE INCREASE IN IMPERVIOUS AREA IS LESS THAN 1.0 ACRE FOR THIS PROJECT.

#### PLACEMENT OF FILL IN WATERS OF THE STATE:

# DRINKING WATER SUPPLY MANAGEMENT AREA:

THE PROJECT STORMWATER DISCHARGE IS NOT ANTICIPATED TO IMPACT ANY OF THE FOLLOWING: -OUTSTANDING RESOURCE VALUE WATERS, TROUT WATERS, WETLANDS, CALCAREOUS FENS, PROPERTIES LISTED BY THE NATIONAL REGISTER OF HISTORIC PLACES OR ARCHAEOLOGICAL SITES

THE PROJECT STORMWATER DISCHARGE IS NOT SUBJECT TO ADDITIONAL REGULATION DUE TO ANY OF THE FOLLOWING: -OTHER FORMAL ENVIRONMENTAL REVIEWS, ENDANGERED OR THREATENED SPECIES

# STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IMPLEMENTATION RESPONSIBILITIES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP, INCLUDING THE ACTIVITIES OF ALL
- OF THE CONTRACTOR'S SUBCONTRACTORS DURING CONSTRUCTION.
- 2. CONTRACTOR SHALL PROVIDE A PERSON(S) KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE
- 3. CONTRACTOR SHALL PROVIDE PERSON(S) MEETING THE TRAINING REQUIREMENTS OF THE NPDES PERMIT TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

# STORMWATER DISCHARGE DESIGN REQUIREMENTS:

THE FOLLOWING SIZING CRITERIA APPLY TO THE DESIGN OF STORMWATER TREATMENT FACILITIES. N/A INDICATES NOT APPLICABLE OR NOT CONSTRUCTED AS PART OF THIS PROJECT.

- 1. TEMPORARY SEDIMENTATION BASINS: N/A
- 2. PERMANENT WET SEDIMENTATION BASINS: N/A
- 3. PERMANENT INFILTRATION/FILTRATION: N/A
- 4. PERMANENT REGIONAL PONDS: N/A 5. ALTERNATIVE METHODS: N/A

#### **WATERSHED REQUIREMENTS:** 1. INSTALLATION OF FILTRATION PRACTICES SHALL BE DONE DURING PERIODS OF DRY WEATHER AND COMPLETED BEFORE A

- RAINFALL EVENT. 2. THE BOTTOM EXCAVATION SURFACE OF FILTRATION AREAS SHALL BE LEVEL WITHOUT DIPS OR SWALES.
- ENGINEERED SOIL SHALL REMAIN UNCONTAMINATED (NOT MIXED WITH OTHER SOIL) WHEN INSTALLED.
- 4. DURING CONSTRUCTION, STORMWATER MUST BE ROUTED AROUND FILTRATION AREAS UNTIL ALL CONSTRUCTION ACTIVITY HAS CEASED AND TRIBUTARY SURFACES ARE CLEANED OF SEDIMENT.

# **SEQUENCE OF CONSTRUCTION:**

- THE FOLLOWING SEQUENCE DESCRIBES, IN GENERAL, THE WORK ON THE SITE:
- 1. CONTRACTOR SHALL VERIFY THAT ALL PERMITS HAVE BEEN OBTAINED AND/OR OBTAIN THE NECESSARY PERMITS.
- 2. CONTRACTOR SHALL PERFORM SITE INSPECTIONS, RECORD KEEPING AND RECORD RETENTION IN ACCORDANCE WITH ALL
- 3. CONTRACTOR SHALL INSTALL ALL PERIMETER AND DOWN-GRADIENT EROSION CONTROL AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS), CONSTRUCTION ENTRANCES AND INLET PROTECTION DEVICES PRIOR TO SITE GRADING, EXCAVATION, STOCKPILING OR DISTURBING EXISTING VEGETATIVE COVER.
- 4. CONTRACTOR SHALL PERFORM SITE GRADING, EXCAVATION, STOCKPILING WORK IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
- 5. CONTRACTOR SHALL INSTALL, INSPECT, MONITOR AND MAINTAIN TEMPORARY AND PERMANENT EROSION CONTROL BMPS AS SHOWN ON PLANS CONTINUOUSLY DURING THE WORK. CONTRACTOR SHALL STABILIZE ALL EXPOSED SOILS NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- 6. CONTRACTOR SHALL REPLACE OR REPAIR EROSION CONTROL AND SEDIMENT CONTROL BMPS THAT ARE NOT FUNCTIONING
- 7. CONTRACTOR SHALL PERFORM SITE RESTORATION ACTIVITIES FOR PERMANENT VEGETATIVE ESTABLISHMENT.

# 8. CONTRACTOR SHALL REMOVE SEDIMENT CONTROL DEVICES WHEN SITE HAS REACHED STABILIZATION.

# 1. CONSTRUCTION ACTIVITY FIELD REQUIREMENTS:

- ALL FIELD REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
- A. THE CONTRACTOR MUST IMPLEMENT THE SWPPP AND PROVIDE BMPS IDENTIFIED IN THE SWPPP IN AN APPROPRIATE AND
- B. THE CONTRACTOR SHALL RESPOND TO CHANGING SITE CONDITIONS AND IMPLEMENT/SUPPLEMENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES UTILIZED TO PROVIDE ADEQUATE PROTECTION OF DISTURBED SOILS AND ADEQUATE PREVENTION OF SEDIMENT TRANSPORT OFF-SITE. AT A MINIMUM, THE FOLLOWING STORM WATER POLLUTION PREVENTION CONSTRUCTION ACTIVITY FIELD REQUIREMENTS SHALL BE FURNISHED BY THE CONTRACTOR.

#### 2. EROSION PREVENTION PRACTICES

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING EROSION PREVENTION PRACTICES
- A. THE CONTRACTOR SHALL ATTEMPT TO PHASE ALL WORK TO MINIMIZE EROSION AND MAINTAIN VEGETATIVE COVER TO THE EXTENT POSSIBLE. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED ON THE SITE BEFORE CONSTRUCTION BEGINS
- B. STABILIZATION ON ALL EXPOSED SOILS MUST BE INITIATED IMMEDIATELY WHENEVER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 CALENDAR DAYS, INCLUDING STOCKPILES WITH SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS. STABILIZATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS.
- C. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM A CONSTRUCTION SITE OR DIVERTS WATER AROUND A SITE MUST BE STABILIZED BY CONTRACTOR WITHIN 200 FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER. TEMPORARY OR PERMANENT DITCH SWALES BEING USED AS A SEDIMENT CONTAINMENT SYSTEM DO NOT NEED TO BE STABILIZED UNTIL THEY ARE NO LONGER USED AS A SEDIMENT CONTAINMENT SYSTEM, AFTER WHICH THEY MUST BE STABILIZED WITHIN 24 HOURS.
- D. TEMPORARY OR PERMANENT ENERGY DISSIPATION AT PIPE OUTLETS MUST BE PROVIDED WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER.
- E. THE CONTRACTOR MUST DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS OF THE SITE IN ORDER TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE INFILTRATION UNLESS INFEASIBLE. THE CONTRACTOR MUST UTILIZE VELOCITY DISSIPATION DEVICES IF NECESSARY TO PREVENT EROSION WHEN DIRECTING STORMWATER TO VEGETATED AREAS.

#### 3. <u>SEDIMENT CONTROL PRACTICES</u>

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING SEDIMENT CONTROL PRACTICES:
- A. CONTRACTOR MUST INSTALL ALL DOWN GRADIENT PERIMETER CONTROLS BEFORE ANY UP GRADIENT DISTURBANCE BEGINS. CONTRACTOR SHALL MAINTAIN PERIMETER CONTROLS UNTIL FINAL STABILIZATION HAS BEEN ESTABLISHED.
- B. CONTRACTOR SHALL PROVIDE GRADING AND BMP INSTALLATION TO LIMIT ALL SLOPES OF 3H:1V OR STEEPER TO AN UNBROKEN LENGTH OF 75 FEET OR LESS.
- C. IF DOWN GRADIENT SEDIMENT CONTROLS ARE OVERLOADED, THE CONTRACTOR MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE OVERLOADING. THE SWPPP MUST BE AMENDED TO IDENTIFY THESES ADDITIONAL PRACTICES. D. TIMING AND INSTALLATION OF SEDIMENT CONTROL DEVICES CAN BE ADJUSTED BY CONTRACTOR TO ACCOMMODATE
- SHORT-TERM ACTIVITIES SUCH AS CLEARING AND GRUBBING OR VEHICLE PASSAGE. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED AND IN ALL CASES PRIOR TO THE NEXT PRECIPITATION EVENT.
- E. ALL STORM SEWER INLETS AND OUTLETS SHALL BE PROTECTED BY CONTRACTOR WITH APPROPRIATE BMPS DURING THE WORK. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL THE POTENTIAL SOURCES FOR DISCHARGING SEDIMENT TO INLETS HAVE BEEN STABILIZED BY CONTRACTOR.
- F. TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN SURFACE WATERS OR STORMWATER CONVEYANCES. ALL SOIL STOCKPILES THAT REMAIN UNDISTURBED FOR A PERIOD GREATER THAN 7 DAYS SHALL BE PROTECTED BY CONTRACTOR WITH COVER OF MULCH, EROSION CONTROL MATS, OR PLASTIC SHEETING.
- G. CONTRACTOR SHALL IMPLEMENT MEASURES TO CONTROL VEHICLE TRACKING OFF SITE. ROCK CONSTRUCTION ENTRANCES OR EQUIVALENT SYSTEM MUST BE INSTALLED BY CONTRACTOR TO MINIMIZE TRACKING FROM SITE. CONTRACTOR SHALL PROVIDE STREET SWEEPING AS NECESSARY IF BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET.
- H. CONTRACTOR MUST MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL, UNLESS INFEASIBLE. MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA OF THE SITE DICTATES THAT IT BE
- THE CONTRACTOR MUST PRESERVE A 50 FOOT NATURAL BUFFER OR PROVIDE REDUNDANT SEDIMENT CONTROLS WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT DISTURBANCE LIMITS AND STORMWATER FLOWS TO THE SURFACE WATER.
- J. IF POLYMERS, FLOCCULANTS, OR OTHER SEDIMENTATION TREATMENT CHEMICALS ARE USED ON SITE, THE CONTRACTOR MUST COMPLY WITH THE FOLLOWING REQUIREMENTS.
  - a. THE CONTRACTOR MUST USE CONVENTIONAL EROSION AND SEDIMENT CONTROLS PRIOR TO CHEMICAL ADDITION TO ENSURE EFFECTIVE TREATMENT. CHEMICALS MAY ONLY BE APPLIED WHERE TREATED STORMWATER IS DIRECTED TO A SEDIMENT CONTROL SYSTEM WHICH ALLOWS FOR THE SETTLEMENT OF THE FLOC PRIOR TO DISCHARGE.
  - b. CHEMICALS MUST BE SELECTED THAT ARE APPROPRIATELY SUITED TO THE TYPES OF SOILS LIKELY TO BE EXPOSED DURING CONSTRUCTION. CHEMICALS MUST BE USED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES, AND WITH DOSING SPECIFICATION AND SEDIMENT REMOVAL DESIGN SPECIFICATION PROVIDED BY THE MANUFACTURER.

# 4. <u>DEWATERING AND BASIN DRAINING</u>

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING DEWATERING REQUIREMENTS
- A. CONTRACTOR'S DEWATERING ACTIVITIES THAT HAVE SEDIMENT-LADEN DISCHARGE WATER MUST BE DISCHARGED INTO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN WHENEVER POSSIBLE, OTHERWISE IT MUST BE DISCHARGED THROUGH SOME FORM OF BEST MANAGEMENT PRACTICE (BMP) BY CONTRACTOR TO LIMIT SEDIMENT FROM LEAVING THE SITE. PRIOR TO DISCHARGE. THE CONTRACTOR SHALL PERFORM A VISUAL TEST TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN THE BASIN OR BMP AND APPLY ADDITIONAL TREATMENT AS REQUIRED TO ENSURE ADEQUATE TREATMENT.
- B. THE CONTRACTOR SHALL DISCHARGE WATER FROM DEWATERING IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS. THE DISCHARGE WATER SHALL BE DISPERSED OVER AN ACCEPTED ENERGY DISSIPATION MEASURE AND NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS OR WETLANDS
- C. IF CONTRACTOR IS USING FILTERS WITH BACKWASH WATER, THE CONTRACTOR SHALL HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT CAUSE EROSION.

# 5. <u>INSPECTIONS AND MAINTENANCE</u>

REMOVAL.

- CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THE FOLLOWING INSPECTIONS AND MAINTENANCE:
- A. WHEN INSPECTIONS FIND EROSION PREVENTION AND SEDIMENT CONTROL BMPS THAT ARE NONFUNCTIONAL. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS AFTER DISCOVERY. THE CONTRACTOR SHALL ALSO PLACE ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED
- NECESSARY WITHIN 24 HOURS OF NOTICE. B. THE CONTRACTOR MUST ROUTINELY INSPECT THE SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.
- C. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED IN WRITING BY CONTRACTOR AND RETAINED WITH THE SWPPP BY CONTRACTOR. MAINTENANCE MUST BE COMPLETED BY CONTRACTOR IN CONFORMANCE WITH NPDES PERMIT. CONTRACTOR'S RECORDS MUST INCLUDE:
- a. DATE AND TIME OF INSPECTION.
- b. NAME OF PERSON CONDUCTING INSPECTION.
- c. FINDING OF INSPECTION INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTION.
- d. DETAILS OF CORRECTIVE ACTION TAKEN (DATE. TIME. PARTY COMPLETING MAINTENANCE ACTIVITIES).
- e. DATE AND AMOUNT OF RAINFALL GREATER THAN 0.5 INCHES IN 24 HOURS.
- f. IF ANY DISCHARGE IS OBSERVED TO BE OCCURRING DURING THE INSPECTION, A RECORD OF ALL POINTS OF THE PROPERTY FROM WHICH THERE IS A DISCHARGE MUST BE MADE, AND THE DISCHARGE SHALL BE DESCRIBED (COLOR, ODOR, FLOATING, SETTLED, OR SUSPENDED SOLIDS, FOAM, OIL SHEEN, AND OTHER INDICATORS) AND
- q. DOCUMENTATION OF CHANGES MADE TO SWPPP.
- D. IN AREAS OF PROJECT WHERE FINAL STABILIZATION IS COMPLETE INSPECTIONS CAN BE REDUCED TO ONCE A MONTH. THESE AREAS SHALL BE INSPECTED BY CONTRACTOR FOR MINIMUM PERIOD OF 12 NON-WINTER MONTHS AND WITHIN 24 HOURS OF FIRST SPRING RUNOFF OR PRIOR TO RESUMING CONSTRUCTION FOLLOWING ANY WINTER STOPPAGE.
- E. THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF BMPS UNTIL ANOTHER PERMITTEE HAS OBTAINED COVERAGE, OR THE PROJECT HAS UNDERGONE FINAL STABLIZATION AND AN NOT HAS BEEN SUBMITTED TO
- F. ALL EROSION CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED BY CONTRACTOR ACCORDING TO THE DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW.
- G. ALL PERIMETER CONTROL DEVICES MUST BE REPAIRED, REPLACED OR SUPPLEMENTED BY THE CONTRACTOR WHEN THEY BECOME NON-FUNCTIONAL OR THE SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE DEVICE. CONTRACTOR SHALL REPAIR OR REPLACE DEVICE THAT IS NONFUNCTIONAL BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW.
- THE SEDIMENT COLLECTED REACHES ONE HALF THE STORAGE VOLUME WITH 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW. ALL SEDIMENT DEPOSITS WITHIN SURFACE WATERS OR STORMWATER CONVEYANCES MUST BE REMOVED AND RESTABILIZED BY CONTRACTOR WITHIN 7 DAYS OF DISCOVERY, INCLUDING DELTAS AND STORM SEWER SEDIMENT DEPOSITS. THE

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED, IF NECESSARY, FOR SUCH SEDIMENT

H. TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND SEDIMENT REMOVED BY CONTRACTOR ONCE

- CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING EXISTING PAVED SURFACES CLEAN OF SEDIMENT. CONSTRUCTION ENTRANCES SHALL BE CHECKED DAILY BY CONTRACTOR. IF THE ENTRANCE BECOMES INUNDATED WITH SEDIMENT, THE ENTRANCE WILL BE CLEANED OR REPLACED AS APPROPRIATE BY CONTRACTOR. STREETS LEADING TO AND FROM THE CONSTRUCTION ENTRANCE SHALL BE CHECKED DAILY BY CONTRACTOR FOR OFF-SITE SEDIMENT TRACKING ONTO PAVED SURFACES. THESE AREAS WILL BE SWEPT CLEAN OF ANY TRACKED MATERIALS BY CONTRACTOR AS SOON AS POSSIBLE AND WITHIN 24 HOURS OF DISCOVERY. CONTRACTOR SHALL EXTEND SWEEPING TO THE EXTREMITY OF ANY SEDIMENT TRACKING THAT OCCURS OFF-SITE.
- K. CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ANY OFF-SITE SEDIMENT ACCUMULATIONS IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS.
- ALL INFILTRATION/FILTRATION AREAS MUST BE INSPECTED BY CONTRACTOR TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION IS ACCUMULATING OVER THE INFILTRATION/FILTRATION AREA. SEDIMENT ACCUMULATED OVER INFILTRATION /FILTRATION MUST BE REMOVED BY CONTRACTOR.
- M. CONTRACTOR SHALL PROTECT INFILTRATION/FILTRATION AREAS FROM SEDIMENTATION AND OVER-COMPACTION. DURING EXCAVATION, SEDIMENT AND EROSION CONTROL DEVICES MUST BE UTILIZED BY CONTRACTOR TO PREVENT SEDIMENTATION AND THE AREA MUST BE STAKED OFF AND MARKED SO THAT HEAVY CONSTRUCTION EQUIPMENT WILL NOT COMPACT THE
- N. INSPECTIONS CAN BE SUSPENDED DUE TO FROZEN GROUND CONDITIONS UNTIL FIRST RUNOFF OCCURS OR CONSTRUCTION ACTIVITIES RESUME

#### 6. POLLUTION PREVENTION MEASURES

- CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE FOLLOWING POLLUTION PREVENTION MANAGEMENT MEASURES
- A. THE CONTRACTOR SHALL MINIMIZE THE EXPOSURE OF ALL PRODUCTS, MATERIALS, AND WASTES FROM STORMWATER WHICH MAY BE A SOURCE OF CONTAMINATION TO STORMWATER OR ARE NOT DESIGNED TO BE EXPOSED TO
- B. BUILDING PRODUCTS THAT MAY LEACH POLLUTANTS MUST BE UNDER COVER (PLASTIC SHEETING, TEMPORARY ROOFS, ETC.) TO PREVENT THE DISCHARGE OF POLLUTANTS OR PROTECTED BY A SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.

C. PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS MUST BE UNDER

PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS MATERIALS MUST COMPLY WITH ALL STATE

- COVER (PLASTIC SHEETING, TEMPORARY ROOFS, ETC.) TO PREVENT THE DISCHARGE OF POLLUTANTS OR PROTECTED BY A SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER. D. HAZARDOUS MATERIALS, TOXIC WASTE, (INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) MUST BE STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS STORAGE AREAS MUST BE
- REQUIREMENTS.
- . SOLID WASTE MUST BE STORED, COLLECTED, AND DISPOSED IN COMPLIANCE WITH ALL STATE REQUIREMENTS. F. PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OVER. SANITARY WASTE MUST BE DISPOSED OF IN ACCORDANCE WITH ALL STATE REQUIREMENTS.
- G. THE CONTRACTOR SHALL TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ALL AREAS WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED. THE CONTRACTOR MUST CONDUCT FUELING IN A CONTAINED AREA UNLESS INFEASIBLE. THE CONTRACTOR MUST ENSURE ADEQUATE SUPPLIES ARE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS. ALL SPILLS MUST BE CLEANED UP AND REPORTED IN ACCORDANCE WITH STATE REQUIREMENTS. DRY CLEAN UP MEASURES SHALL BE USED WHERE POSSIBLE.
- H. THE CONTRACTOR MUST LIMIT VEHICLE AND EQUIPMENT WASHING TO A DEFINED AREA WHEN COMPLETED ON THE PROJECT SITE. RUNOFF FROM THE WASHING AREA MUST BE CONTAINED IN A SEDIMENT BASIN OR OTHER SIMILARLY EFFECTIVE CONTROLS AND WASTE FROM THE WASHING ACTIVITY MUST BE PROPERLY DISPOSED OF. THE CONTRACTOR MUST PROPERLY USE AND STORE SOAPS, DETERGENTS, OR SOLVENTS. NO ENGINE DEGREASING IS ALLOWED ONSITE.
- I. THE CONTRACTOR MUST PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS (CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS) RELATED TO THE PROJECT CONSTRUCTION ACTIVITY. NO WASHOUT WASTES MAY CONTACT THE GROUND, AND THE CONTAINMENT MUST BE DESIGNED SO THAT IT DOES NOT RESULT IN RUNOFF FROM THE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH ALL MPCA RULES. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY THAT REQUIRES SITE PERSONNEL TO UTILIZE PROPER FACILITIES FOR DISPOSAL OF CONCRETE AND OTHER WASHOUT WASTES.

## 7. FINAL STABILIZATION

- THE CONTRACTOR SHALL ENSURE FINAL STABILIZATION OF THE SITE. FINAL STABILIZATION REQUIRES THE FOLLOWING: A. ALL SOIL DISTURBING ACTIVITIES ARE COMPLETE AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70%
- OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ACHIEVED, INCLUDING STABILIZATION OF ALL DITCHES AND SWALES. B. CONTRACTOR SHALL ENSURE THAT ALL PERMANENT STORMWATER TREATMENT SYSTEMS ARE CONSTRUCTED IN
- ACCORDANCE WITH THE PLANS AND SPECIFICATIONS IF THERE IS ONSITE SYSTEMS.
- C. CONTRACTOR SHALL REMOVE ALL TEMPORARY SYNTHETIC AND STRUCTURAL BMPS D. CONTRACTOR SHALL REMOVE ALL SEDIMENTS FROM STORM WATER CONVEYANCES AND PERMANENT WATER QUALITY

# **INSPECTION AND ENTRY:**

BASINS.

-THE CONTRACTOR MUST ALLOW ACCESS AS REQUIRED BY CITY AND STATE REGULATIONS FOR REPRESENTATIVES OF THE CITY OR MPCA OR ANY MEMBER THEREOF WHEN AUTHORIZED BY IT, TO ENTER UPON THE PROJECT SITE FOR THE PURPOSE OF OBTAINING INFORMATION, EXAMINATION OF RECORDS, OR CONDUCTING SURVEYS OR INVESTIGATIONS.

8. CHANGES TO SWPPP

-THE PERMITTEE MUST AMEND THE SWPPP AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS. SUCH AS ADDITIONAL OR

- MODIFIED BMPS, DESIGNED TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS WHENEVER; 1. THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAVE SIGNIFICANT EFFECT ON DISCHARGE. INSPECTION IS REQUIRED WITHIN 24 HOURS OF A RAINFALL EVENT. GREATER THAN
- ONE-HALF INCH. 2. INSPECTION OR INVESTIGATION BY SITE OPERATORS, LOCAL, STATE OR FEDERAL OFFICIALS INDICATE THE SWPPP IS NOT
- EFFECTIVE. 3. THE SWPPP IS NOT ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS OR THE SWPPP IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THIS PERMIT.
- 4. THE MPCA DETERMINES THAT DISCHARGE MAY CAUSE OR CONTRIBUTE TO NON-ATTAINMENT OF ANY APPLICABLE WATER QUALITY STANDARDS OR THE SWPPP DOES NOT INCORPORATE THE REQUIREMENTS RELATED TO AN APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL).

# SWPPP CERTIFICATION:

- THIS STORMWATER POLLUTION PREVENTION PLAN WAS PREPARED BY INDIVIDUAL(S) TRAINED IN ACCORDANCE WITH THE PERMIT'S TRAINING REQUIREMENTS FOR PREPARATION OF SWPPPS. INDIVIDUAL(S) PREPARING THIS SWPPP:

PREPARED BY: RHONDA PIERCE, P.E. PIERCE PINI AND ASSOCIATES RHONDA@PIERCEPINI.COM 763-537-1311

# TRAINING/CERTIFICATION:

DATE OF TRAINING/CERTIFICATION: 2013

CERTIFICATION PROGRAM: UNIVERSITY OF MINNESOTA - DESIGN OF CONSTRUCTION SWPPP - ARDEN HILLS, MN INSTRUCTOR(S): JOHN CHAPMAN

CERTIFICATION EXPIRATION: 2016

710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282

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Office Fax: 763-537-1354

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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.

Rhonda S:Plon G

RHONDA S. PIERCE \_\_\_\_ License No:\_\_\_\_

> DATE
>  DESCRIPTION
>
>
>  04-07-2017
>  PDR SUBMITTAL
>
>
>  04-10-2017
>  MCWD SUBMITTAL
>  04-21-2017 100% DD 05-08-2017 50% CD 05-26-2017 GC 90% REVIEW SET 06-21-2017 100% CD ISSUE 17-003 PROJECT PHAS 100%CD

> > SWPPP -**NARRATIVE**

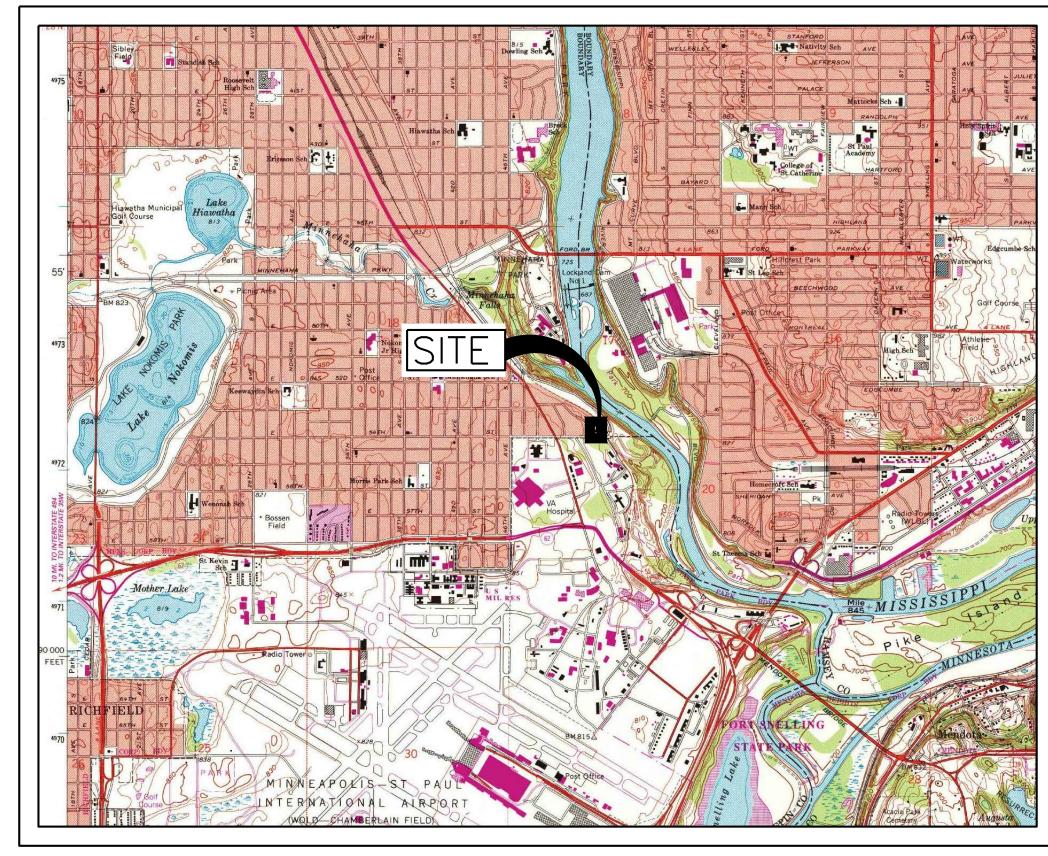
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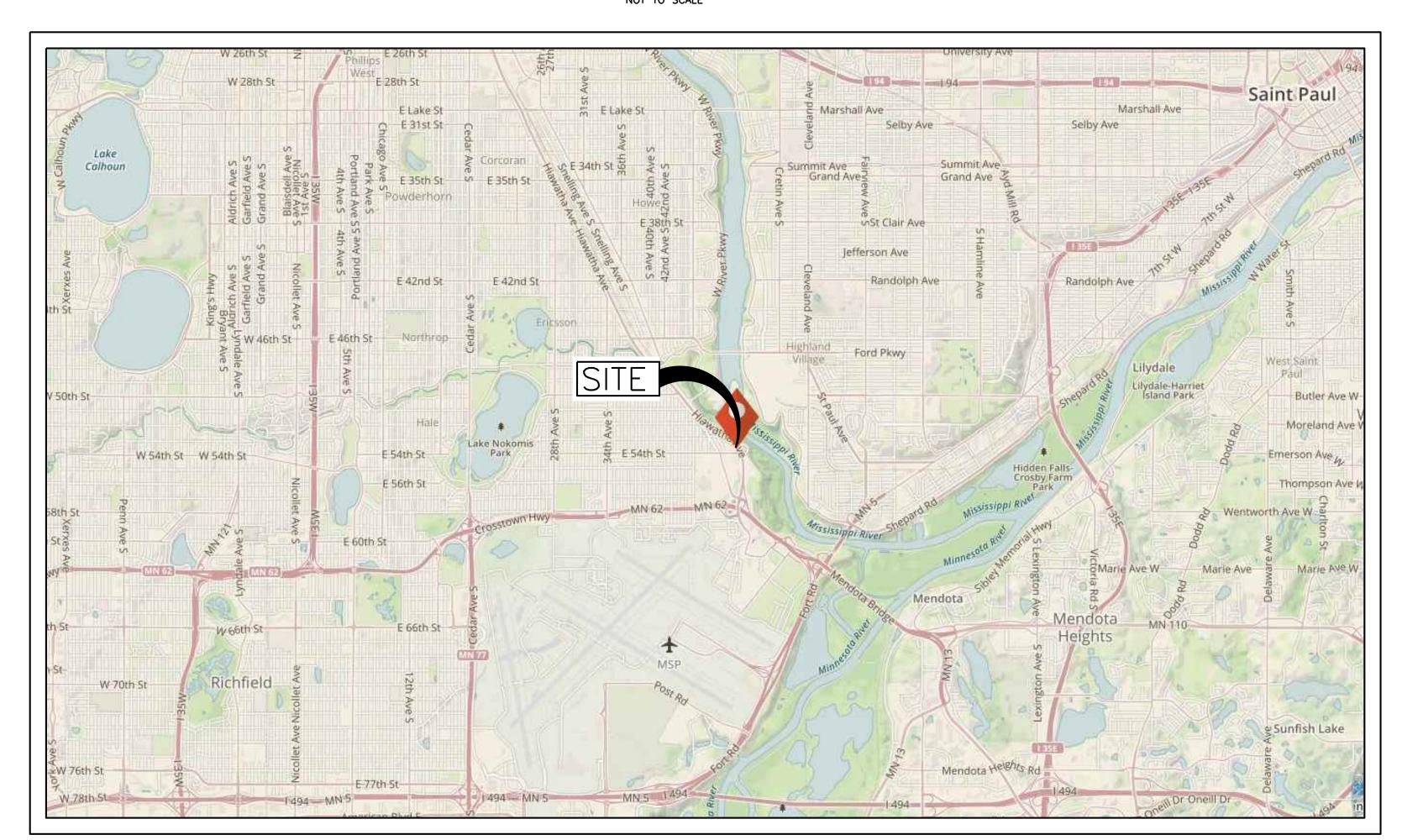
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CLG

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USGS VICINITY MAP



SITE LOCATION MAP

ACREAGE SUMMA	RY
TOTAL SITE AREA	1.09 ACRES
ON-SITE DISTURBED AREA	1.09 ACRES
OFF-SITE DISTURBED AREA	0.07 ACRES
TOTAL DISTURBED AREA	1.16 ACRES
EXISTING IMPERVIOUS AREA	0.12 ACRES
PROPOSED IMPERVIOUS AREA	0.51 ACRES

ESTIMATED BMP QUANTITIES			
SILT FENCE	800 LF		
FILTER LOGS	800 LF		
CATCH BASIN INSERTS	50 EA		
ROCK CONSTRUCTION ENTRANCE	40 CY		

NOTE: QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL NOT RELY ON THESE QUANTITIES FOR THEIR BID AND CIVIL ENGINEER IS NOT RESPONSIBLE FOR COST ESTIMATES OR ACTUAL CONSTRUCTION COSTS.

	CONTACT INFORMATION
	OWNER
CONTACT F	PERSON, TITLE:
TELEPHONI EMAIL:	E:
PARTY	RESPONSIBLE FOR LONG TERM MAINTENANCE
ADDRESS: TELEPHONI	PERSON, TITLE:
	CONTRACTOR
ADDRESS:	PERSON, TITLE:
TELEPHONI EMAIL:	<del></del>
	CONTRACTOR'S ONSITE REPRESENTATIVE
ADDRESS: TELEPHONI EMAIL: ALTERNATE	PERSON, TITLE: E: CONTACT:
PHONE: EMAIL:	

NOTE: CONTRACTOR'S ONSITE REPRESENTATIVE SHALL BE COMPLETED ON THE PLAN SET KEPT IN THE CONSTRUCTION TRAILER. THIS INFORMATION SHALL ALSO BE PROVIDED TO THE OWNER AND CIVIL ENGINEER.

MINNEHAHA TOWNHOMES

MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282

PIERCE PINI ASSOCIATES, INC.

Architecture 612 375 0336 tel
Interiors and 612 342 2216 fax
Urban Design www.msrdesign.com

CIVIL ENGINEER

9298 Central Avenue NE Suite 312 Blaine, MN 55434-3425

Office Phone: 763-537-1311 Office Fax: 763-537-1354

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.

5348, 536 5118 MINNE

Rhondas: Plon CP

Print Names: RHONDA S. PIERCE

Date: 06-21-2017 License N

ISSUE

 MAR
 DATE
 DESCRIPTION

 04-07-2017
 PDR SUBMITTAL

 04-10-2017
 MCWD SUBMITTAL

 04-21-2017
 100% DD

 05-08-2017
 50% CD

 05-26-2017
 GC 90% REVIEW SET

 06-21-2017
 100% CD ISSUE

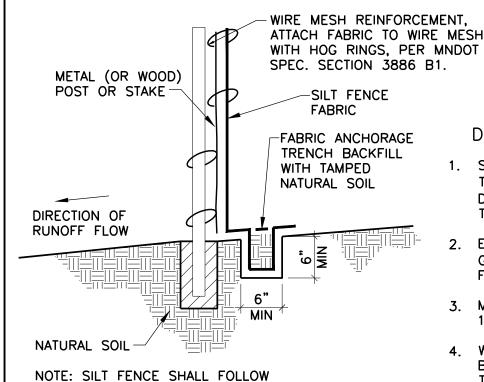
17-003

PROJECT PHASE

100%CD

DRAWN BY: CHECKED BY: CSP

SWPPP - GENERAL INFORMATION



## DESIGN RECOMMENDATIONS

- SILT FENCES SHOULD BE INSTALLED ON THE CONTOUR (AS OPPOSED TO UP AND DOWN A HILL) AND CONSTRUCTED SO THAT FLOW CANNOT BYPASS THE ENDS.
- ENSURE THAT THE DRAINAGE AREA IS NO GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
- 3. MAKE THE FENCE STABLE FOR THE 10-YEAR PEAK STORM RUNOFF.
- 4. WHERE ALL RUNOFF IS TO BE STORED BEHIND THE SILT FENCE, ENSURE THAT THE MAXIMUM SLOPE LENGTH BEHIND THE FENCE DOES NOT EXCEED THE SPECIFICATIONS SHOWN IN TABLE 1

FIGURE 1 TYPICAL INSTALLATION FOR SILT FENCE

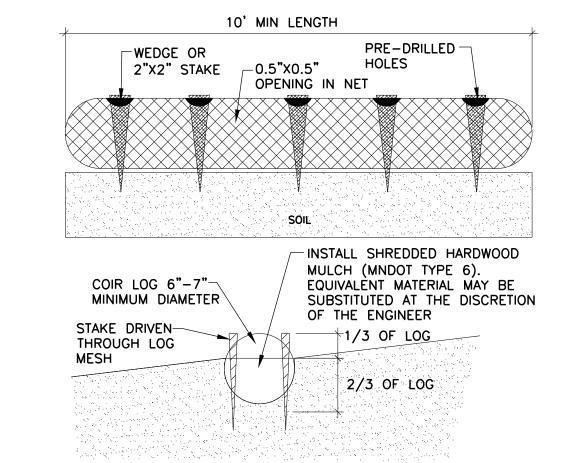
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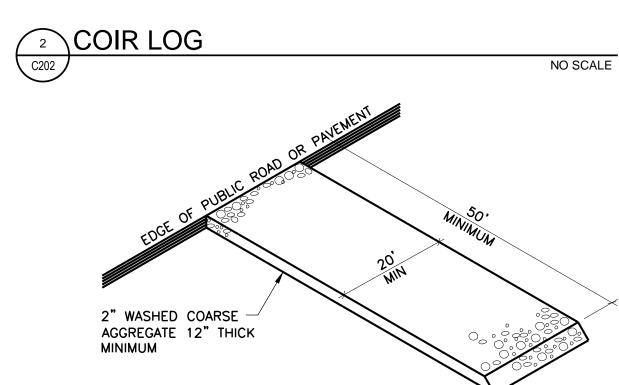
TABLE 1 MAXIMUM SLOPE LENGTH AND SLOPE FOR WHICH SILT FENCE IS APPLICABLE

		BY CALCULATION	BY CALCULATION	BY ACCEPTED DESIGN PRACTICES
SLOPE H:V	PERCENT	SILT FENCE STORAGE EQUALS 2 FT FOR A 100-YEAR EVENT	SILT FENCE STORAGE EQUALS 2 FT FOR A 2-YEAR EVENT OR 3 FT FOR A 100-YEAR EVENT	MAXIMUM SLOPE LENGTH
100:1	1%	400 FT	900 FT	100 FT
50:1	2%	200 FT	450 FT	75 FT
25:1	4%	100 FT	225 FT	75 FT
20:1	5%	80 FT	180 FT	75-50 FT
17:1	6%	67 FT	150 FT	50 FT
12.5:1	8%	50 FT	112 FT	50 FT
10:1	10%	40 FT	90 FT	50-25 FT
5:1	20%	20 FT	45 FT	25-15 FT
4:1	25%	16 FT	36 FT	15 FT
3:1	33%	12 FT	27 FT	15 FT
2:1	50%	8 FT	18 FT	15 FT

THEAVY DUTY SILT FENCE DETAIL C202

NO SCALE





GRAVEL CONSTRUCTION ENTRANCE

PLAN VIEW FROM DRIPLINE

6' MAX -----

TREE PROTECTION DETAIL

NO SCALE

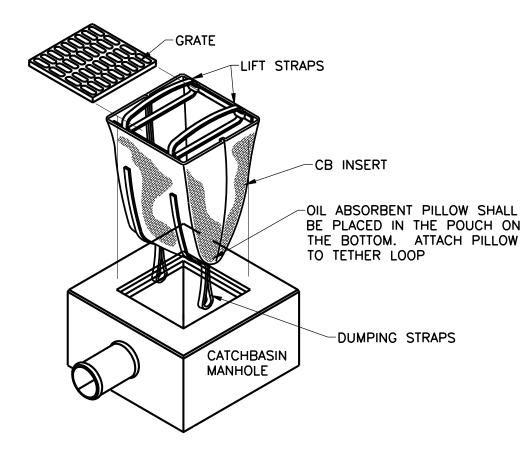
TREE PROTECTION NOTES: 1) ALL TREE PROTECTION FENCING AND EROSION CONTROL FENCING SHALL BE -DRIPLINE INSTALLED ACCORDING TO THE PLANS PRIOR TO ANY DEMOLITION. AFTER DEMOLITION OR AS NECESSARY, TREE PROTECTION FENCING MAY BE RELOCATED WITH APPROVAL FROM THE LANDSCAPE ARCHITECT. ALL TREE PROTECTION FENCING AND EROSION CONTROL DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PERIOD.

- 2) CONTRACTOR SHALL NOT STORE ANY MATERIALS OR PARK ANY VEHICLES IN TREE PROTECTION ZONES. THE FENCE SHALL PREVENT TRAFFIC MOVEMENT AND THE PLACEMENT OF TEMPORARY FACILITIES, EQUIPMENT, STOCKPILES AND SUPPLIES FROM HARMING VEGETATION WITHIN THE LIMITS OF PROTECTION.
- 3) THE CONTRACTOR SHALL CLEANLY CUT ALL ROOTS EXPOSED BY GRADING AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- 4) THE CONTRACTOR SHALL USE DESIGNATED CONSTRUCTION ENTRANCES AND STAGING AREAS.

- DRIPLINE

5) SEE UMD TREE PROTECTION REQUIREMENTS AND NOTE #45 ON SHEET 200.CN.

NO SCALE



- 1. OIL ABSORBENT PILLOW SHALL BE REMOVED AND REPLACED WHEN NEAR SATURATION.
- 2. USE DANDY® BAG II AS MANUFACTURED BY <u>DANDY</u>® <u>PRODUCTS</u>, INC. 3. AN EQUIVALENT CATCHBASIN EROSION CONTROL INSERT METHOD OR PRODUCT MAY BE USED WITH PRIOR APPROVAL FROM ENGINEER.

**CB INSERT EROSION CONTROL** 

NO SCALE

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PIERCE PINI ASSOCIATES, INC.

Minneapolis, Minnesota 55401–2282

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Rhonda S: PLON CP

int Names: RHONDA S. PIERCE \_\_\_\_ License No:\_\_\_\_\_ 41333

 
 DATE
 DESCRIPTION

 04-07-2017
 PDR SUBMITTAL

 04-10-2017
 MCWD SUBMITTAL
 04-21-2017 100% DD 05-08-2017 50% CD 05-26-2017 GC 90% REVIEW SET 06-21-2017 100% CD ISSUE

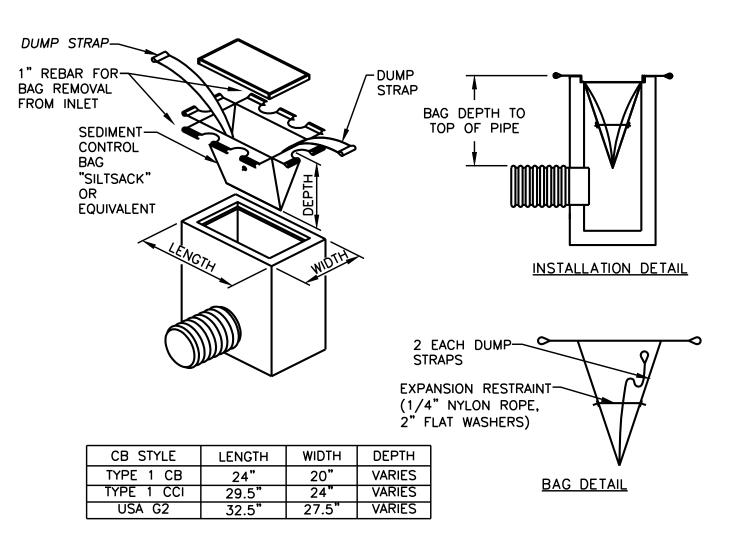
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**SWPPP - DETAILS** 

NO SCALE

C202



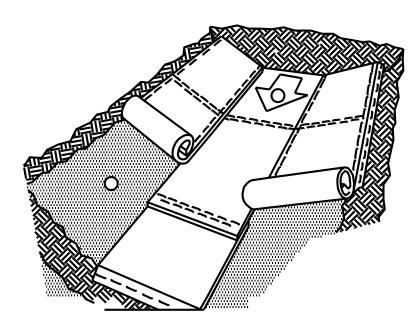
# INLET SEDIMENT CONTROL DEVICE - SILT SACK

# NOTES:

<sup>6</sup> SILT SACK

C202

- 1. THE DIMENSION CHART ABOVE IS FOR STANDARD CATCH BASINS AND INLETS ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT SIZE DEVICE FOR EACH
- 2. FOR NON-STANDARD CATCH BASINS AND INLETS, THE CONTRACTOR SHALL MEASURE DIMENSIONS IN THE FIELD AND ORDER THE APPROPRIATE SIZE(S).
- 3. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/FT), AS PER THE MANUFACTURER'S SPECS.
- 4. THE SEDIMENT CONTROL DEVICE SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED A MINIMUM ONCE PER MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT. FILTER SHALL BE CLEANED IN A MANNER WHICH ENSURES THAT ALL SEDIMENT REMAINS ON SITE.
- 5. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.
- 6. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS, SIZE OF FILTER INLET SACK TO BE DETERMINED BY MANUFACTURER.
- 7. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE BAG BECOMES HALF FULL.



- 1. BEFORE INSTALLATION APPLY TOPSOIL, FERTILIZER AND SEED TO
- 2. BEGIN AT THE TOP OF THE CHANNEL, INSTALL MATS BY ANCHORING IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF MAT EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12' PORTION OF MAT BACK OVER SEED AND SOIL. SECURE MATS WITH A WITH A ROW OF STAPLES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE MATS.
- 3. ROLL CENTER MATS IN DIRECTION OF WATER FLOW IN BOTTOM OF
- 4. PLACE CONSECUTIVE AND ADJACENT MATS END OVER END (SHINGLE STYLE) WITH A MINIMUM 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE OVERLAPPED MATS.
- 5. FULL LENGTH EDGE OF MATS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH.
- 6. THE TERMINAL END OF MATS MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE
- 7. BACKFILL AND SEED AFTER STAPLING. 8. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER INSTALLATION.

**\EROSION STABILIZATION MATS** 

STAPLES AT 3' O.C.-STAPLES MUST BE INSERTED THROUGH OVERLAP MATERIAL TRANSVERSE SEAMS: -BLANKET MATERIAL MUST OVERLAP AT LEAST 6" AND STAPLES INSERTED THROUGH BOTH FABRICS AT A MAXIMUM SPACING OF 20" LONGITUDINAL SEAMS: BLANKET MATERIAL MUST AT END OF SLOPE OVERLAP AT LEAST 6" AND SECURE BLANKET STAPLES INSERTED THROUGH MATERIAL BY INSERTING BOTH FABRICS AT A STAPLES ABOUT 20" MAXIMUM SPACING OF 40" APART THROUGH THE

1. EROSION CONTROL BLANKET TO BE CATEGORY 4-COCONUT 2S FOR SLOPES GREATER THAN 5:1 AND SIDES AND BOTTOM OF ALL DRAINAGE SWALES AND PONDING AREAS AND CATEGORY 2-STRAW 2S FOR ALL SLOPES LESS THAN 5:1 PER MNDOT SPEC. SECTION

® EROSION CONTROL BLANKET

EXTEND MATERIAL ABOUT 40" ON TOP OF THE GROUND AND RANDOMLY INSERT STAPLES THROUGH TH MATERIAL ABOUT 20

2. INSTALL PER MNDOT SPEC. SECTION 2575

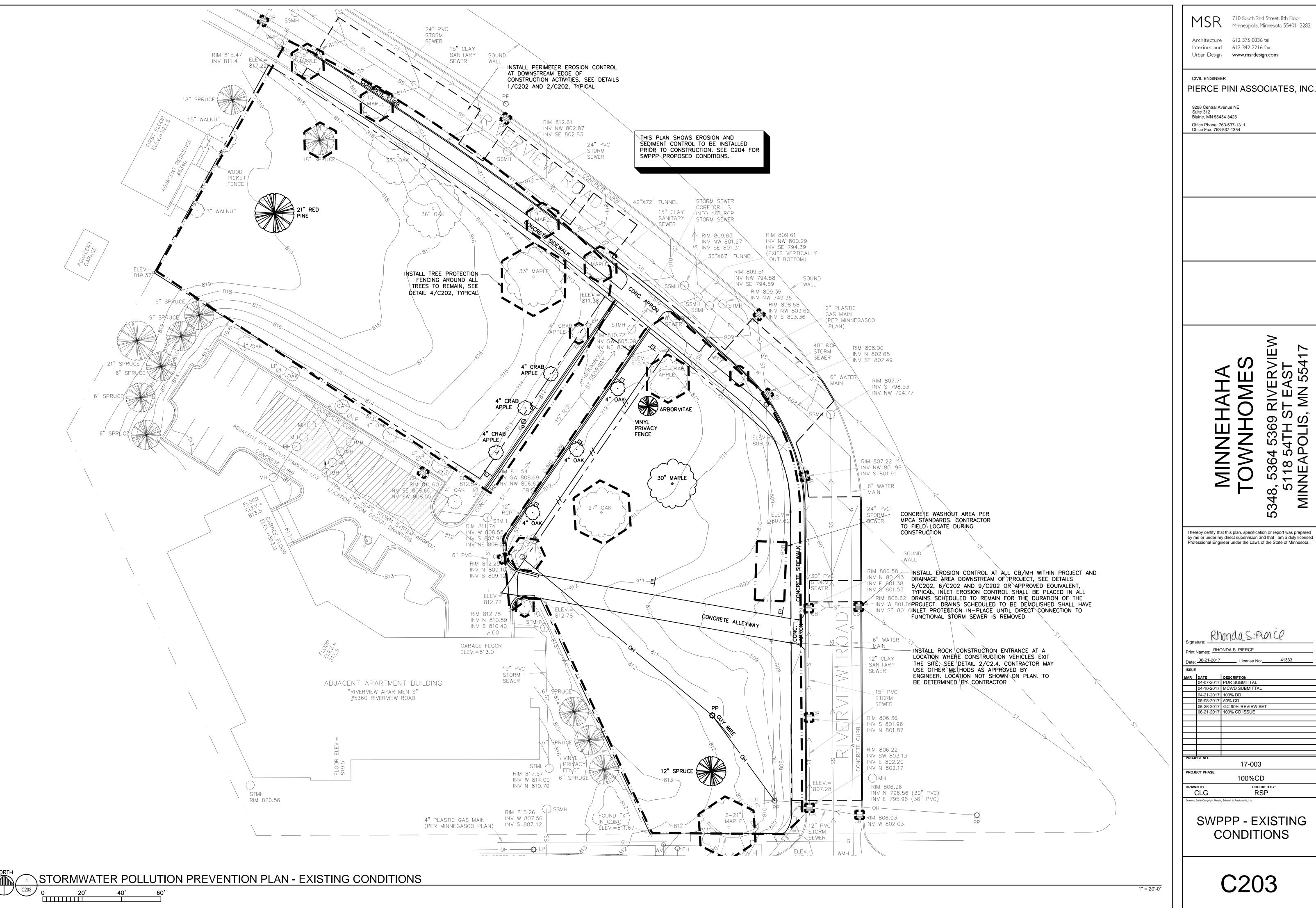
NO SCALE

PROVIDE GAP AT INLET FOR OVERFLOW OIL ABSORBENT PILLOW SHOULD BE PARTIALLY BLOCKING THE CURB HOOD WHEN INSTALLED PROPERLY TUCK THE ENCLOSURE FLAF -OIL ABSORBENT PILLOW INSIDE TO COMPLETELY SHALL BE WIDER THAN ENCLOSE THE GRATE THE INLET OPENING ON EACH SIDE OIL ABSORBENT PILLOW SHALL-PLACE INLET GRATE INTO BE PLACED IN THE POUCH ON FRAME THROUGH THE THE BOTTOM (BELOW-GRADE LIFTING DEVICE LOOPS SIDE) OF THE UNIT. ATTACH PILLÓW TO TETHER LOOP 1. OIL ABSORBENT PILLOW SHALL BE

CATCHBASIN CURB BOX INLET EROSION CONTROL

REMOVED AND REPLACED WHEN NEAR SATURATION. 2. PROVIDE BEAVER DAM AS MANUFACTURED BY DANDY PRODUCTS, INC. 3. AN EQUIVALENT CURB INLET EROSION CONTROL METHOD OR PRODUCT MAY BE USED WITH

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Rhonda S: PLON CP

rint Names: RHONDA S. PIERCE

Date: <u>06-21-2017</u> License No:\_\_\_\_\_ 
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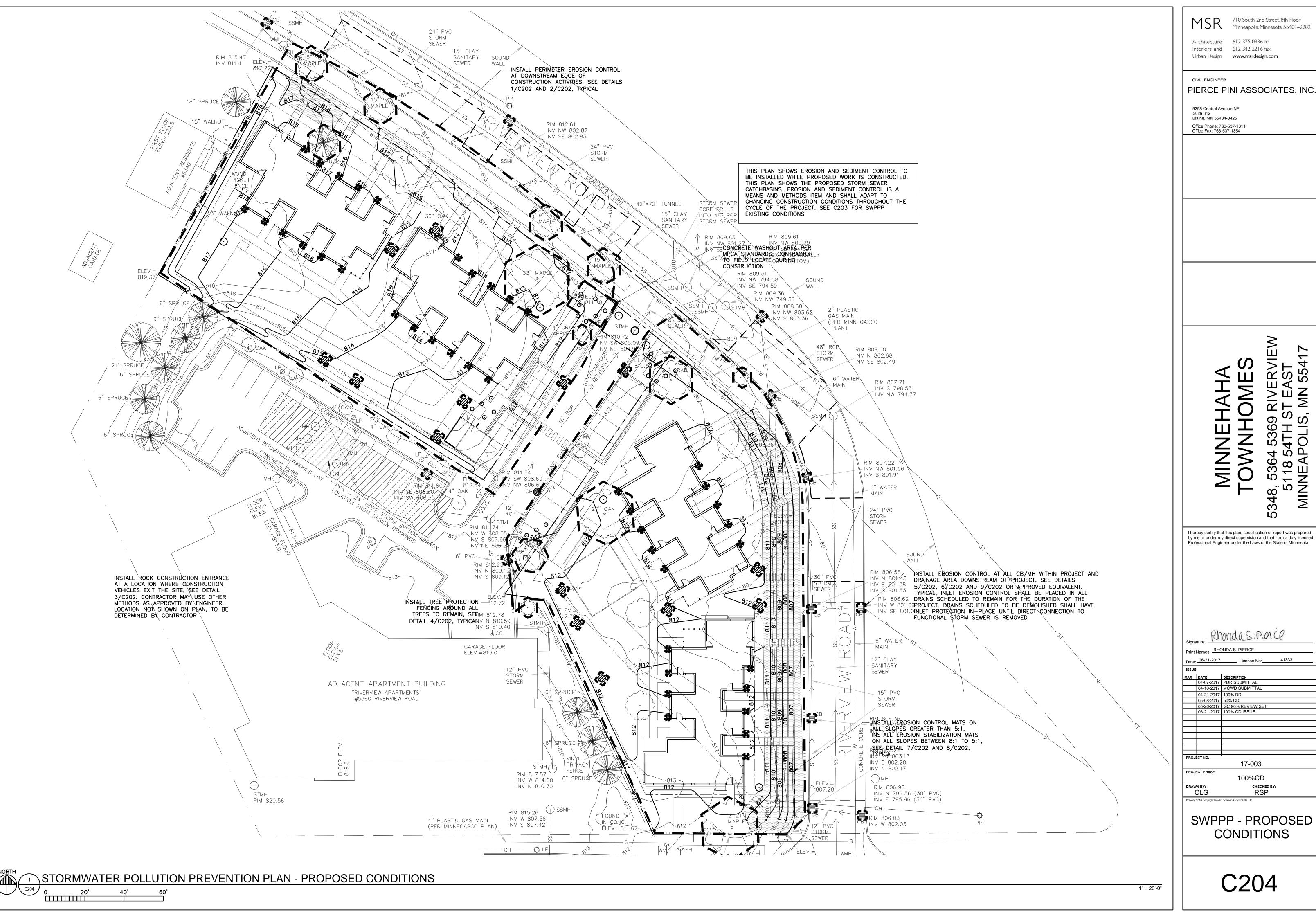
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SWPPP - EXISTING **CONDITIONS** 

RSP



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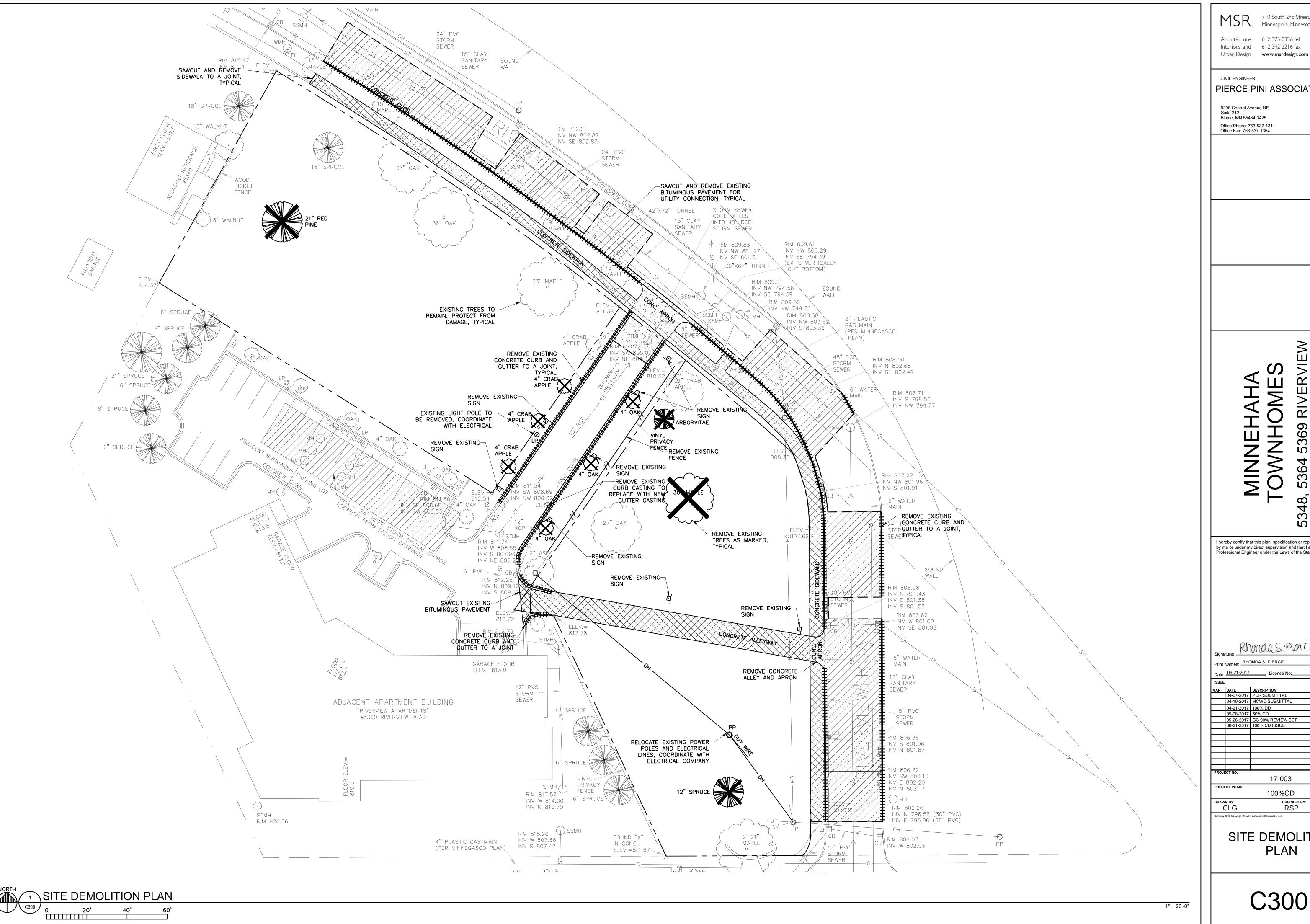
 
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5348, 5364 5369 5118 54TH S MINNEAPOLIS,

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rint Names: RHONDA S. PIERCE Date: 06-21-2017 License No:\_\_\_\_

 
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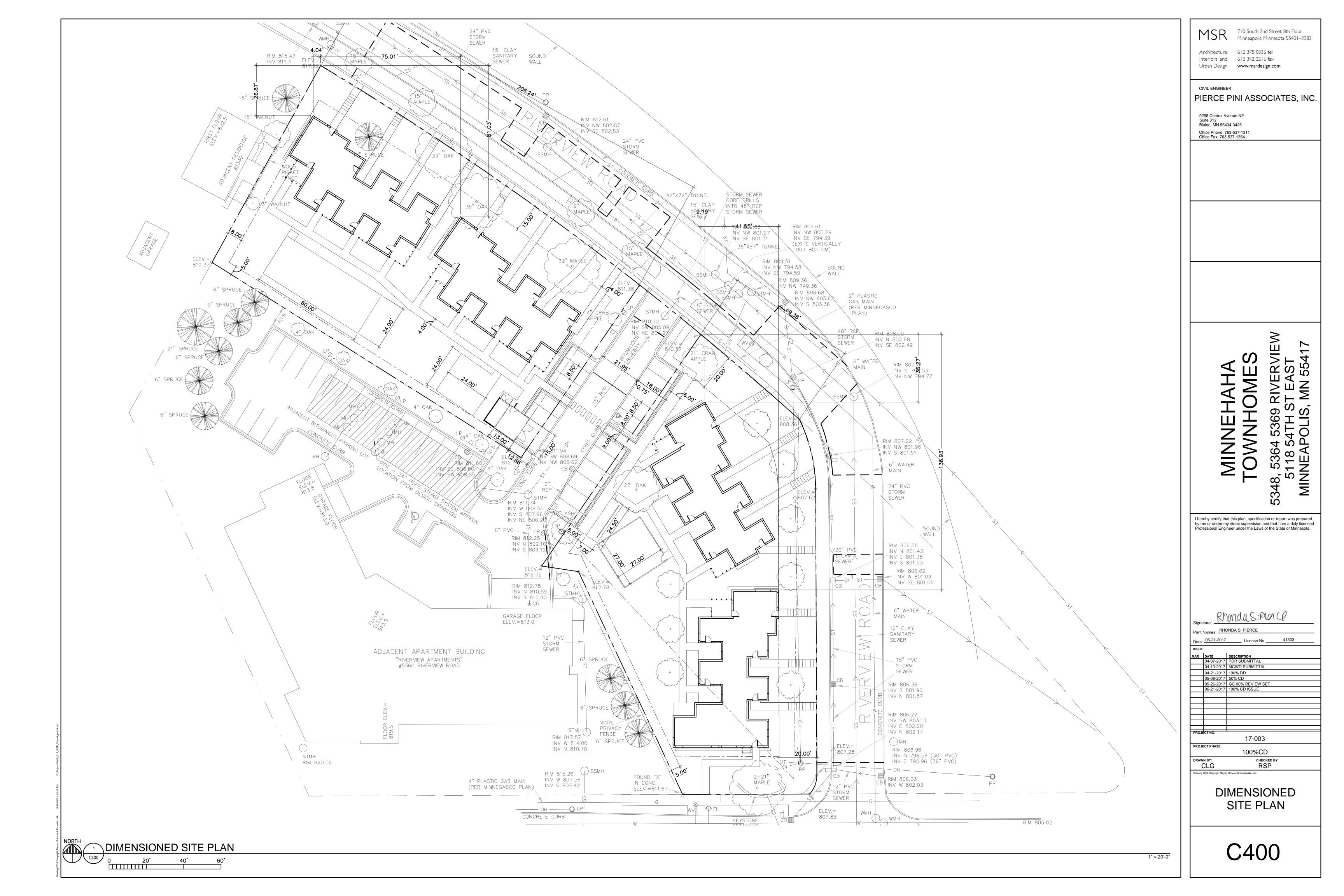
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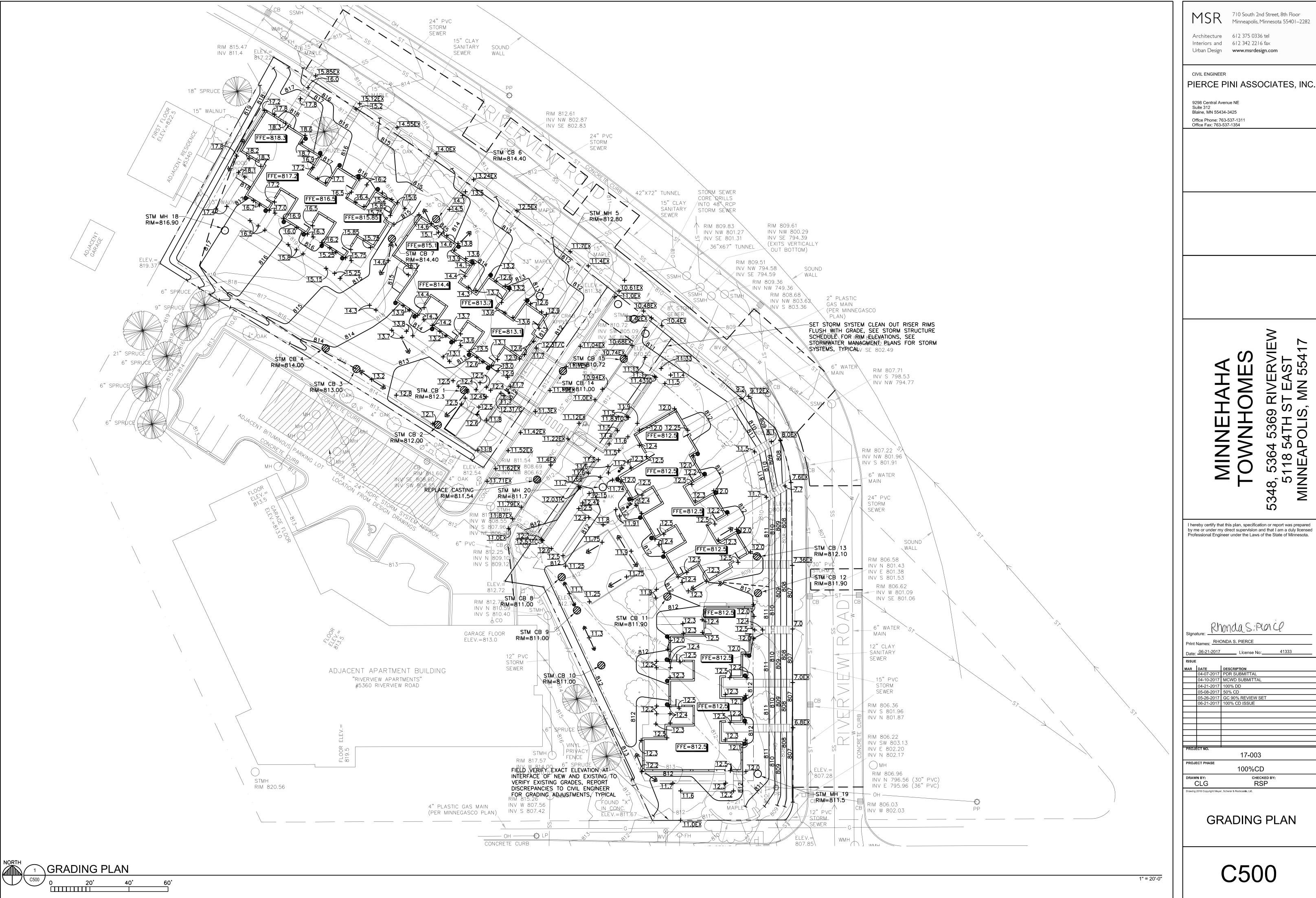
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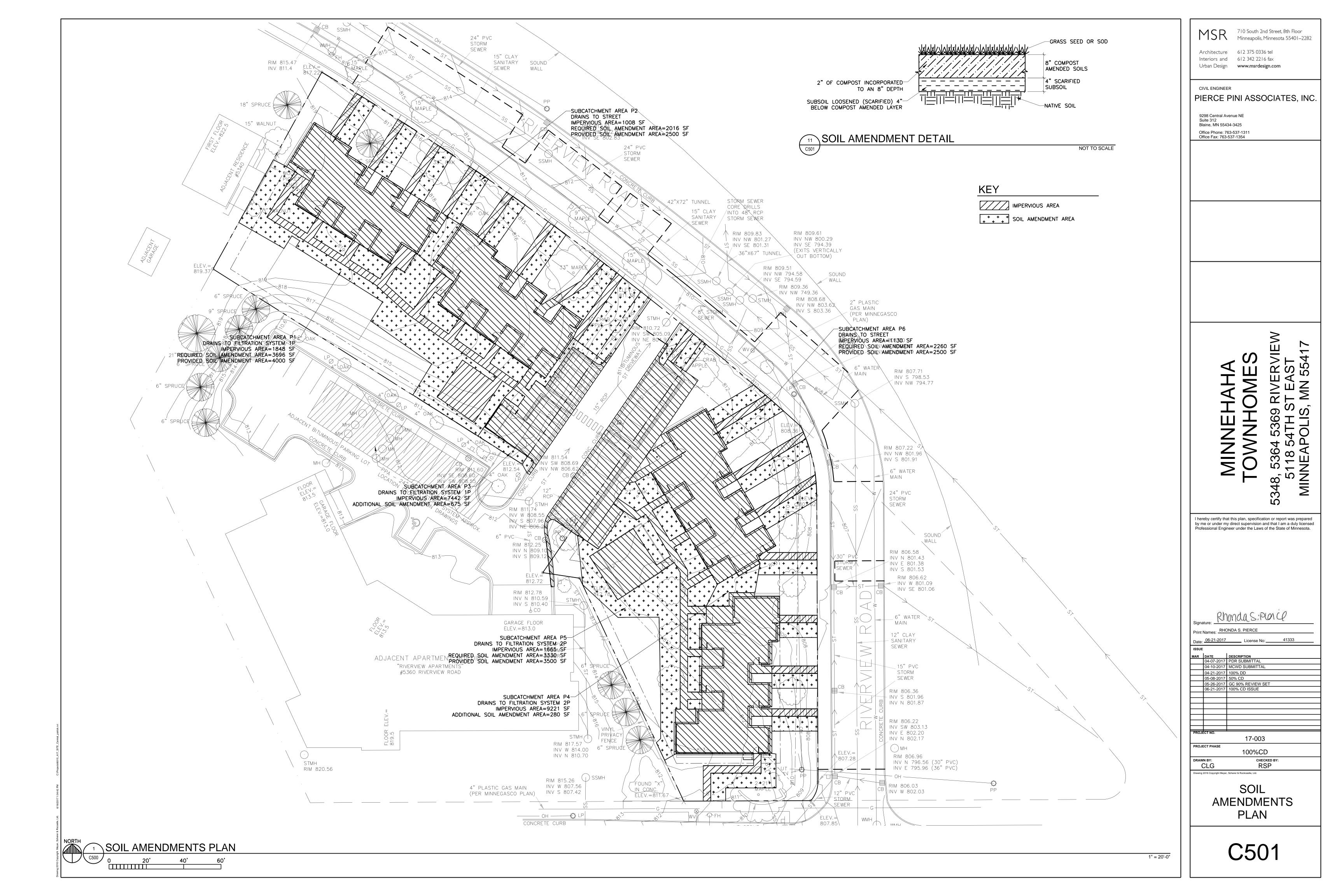
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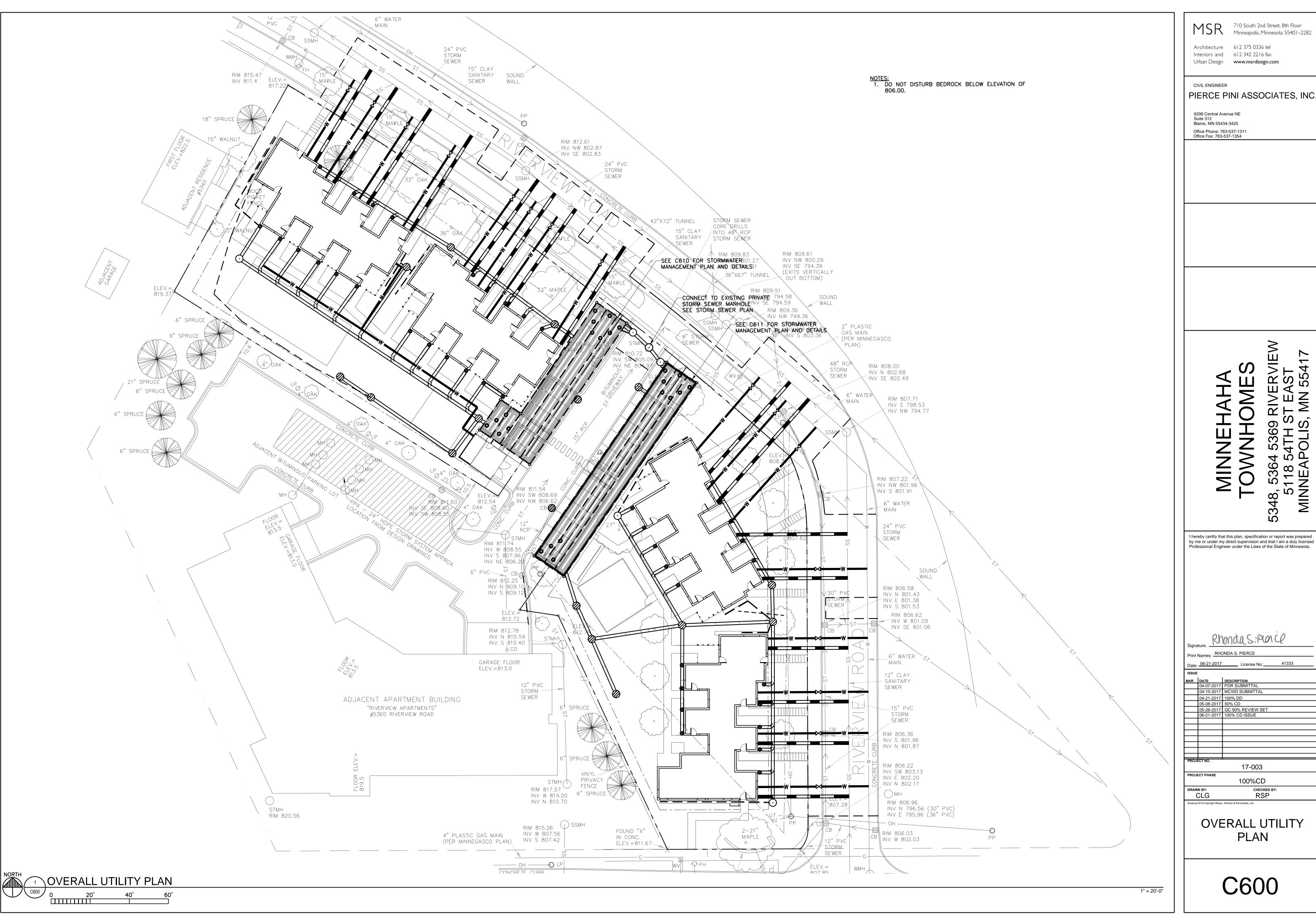
SITE DEMOLITION





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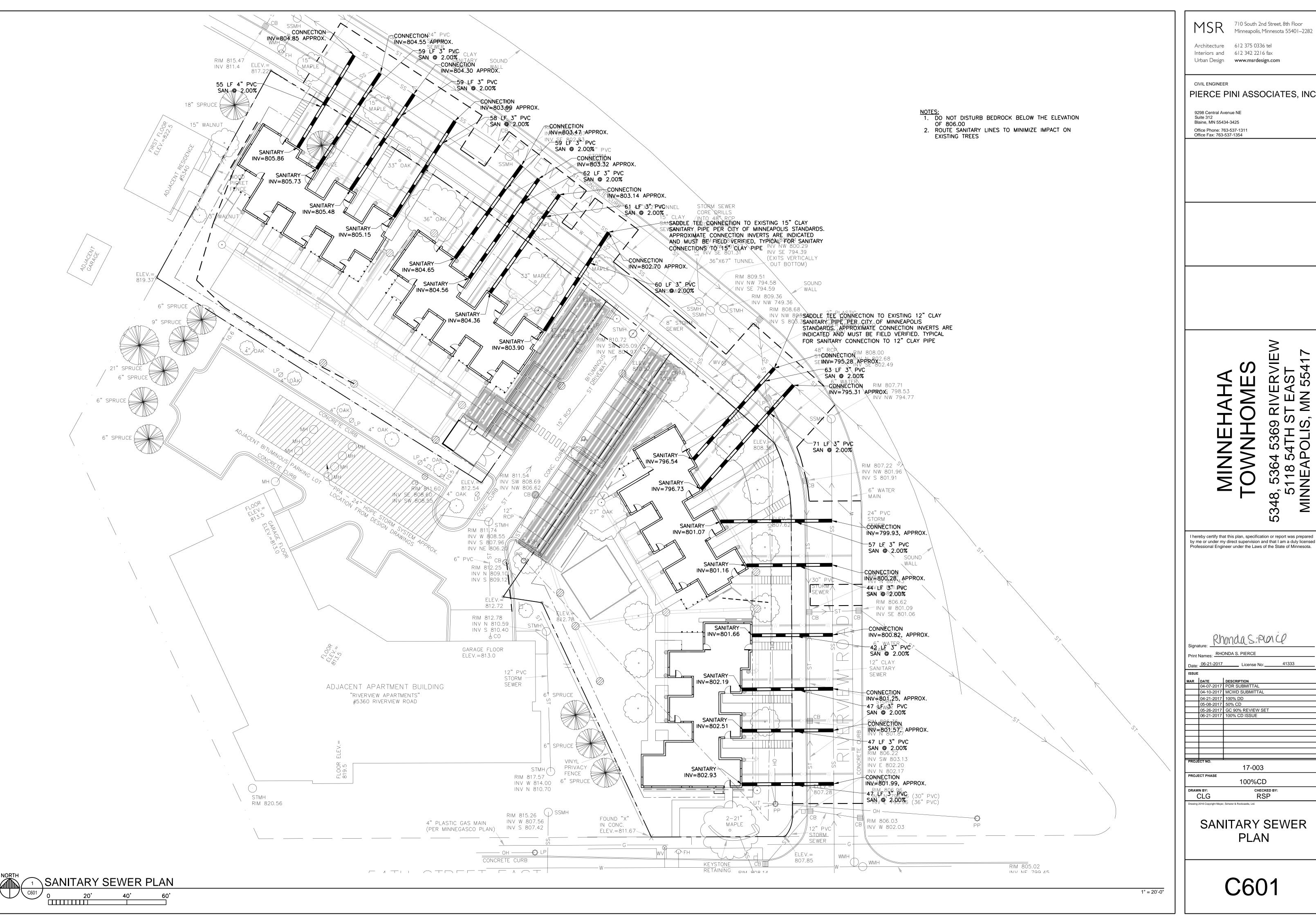




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**OVERALL UTILITY** 



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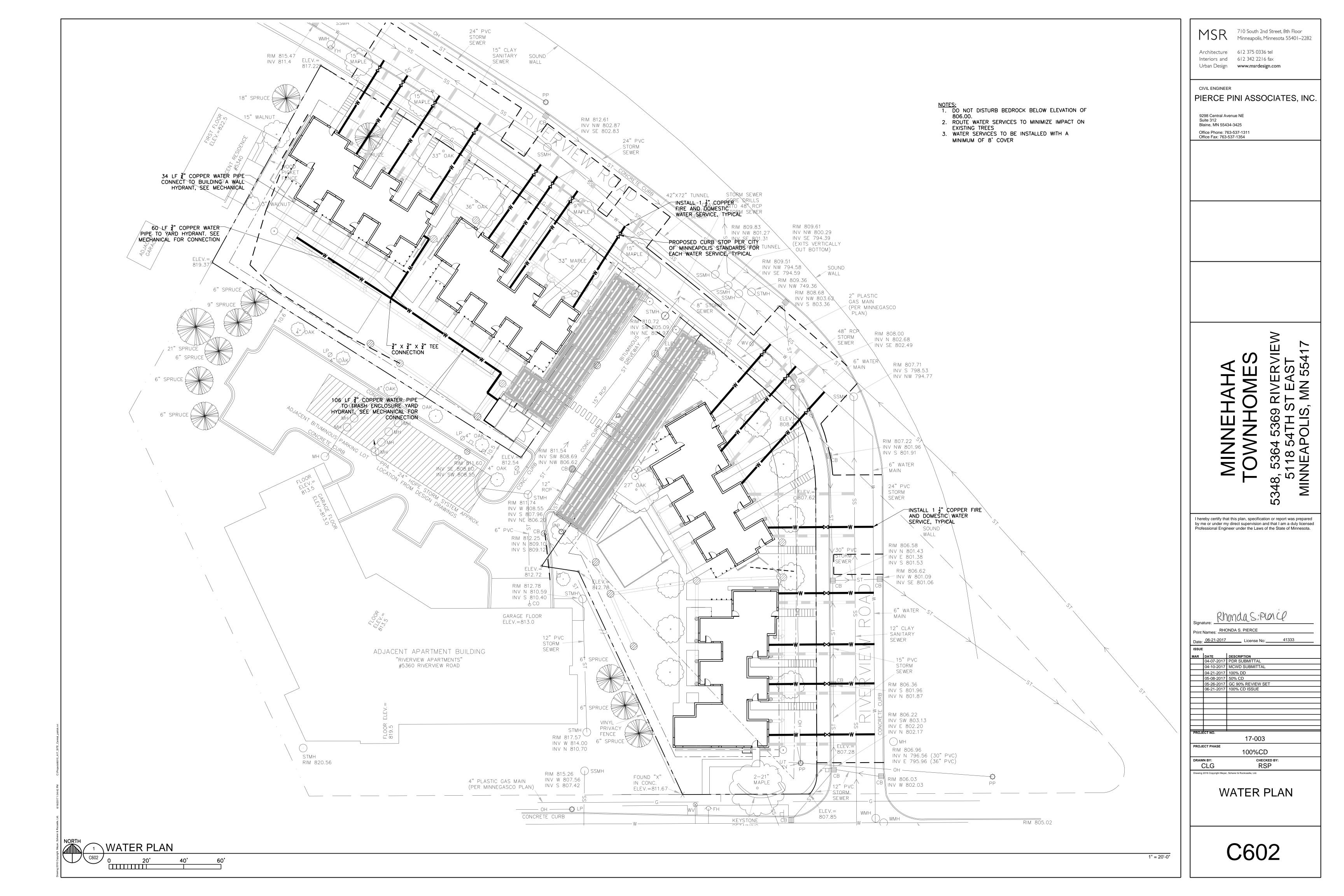
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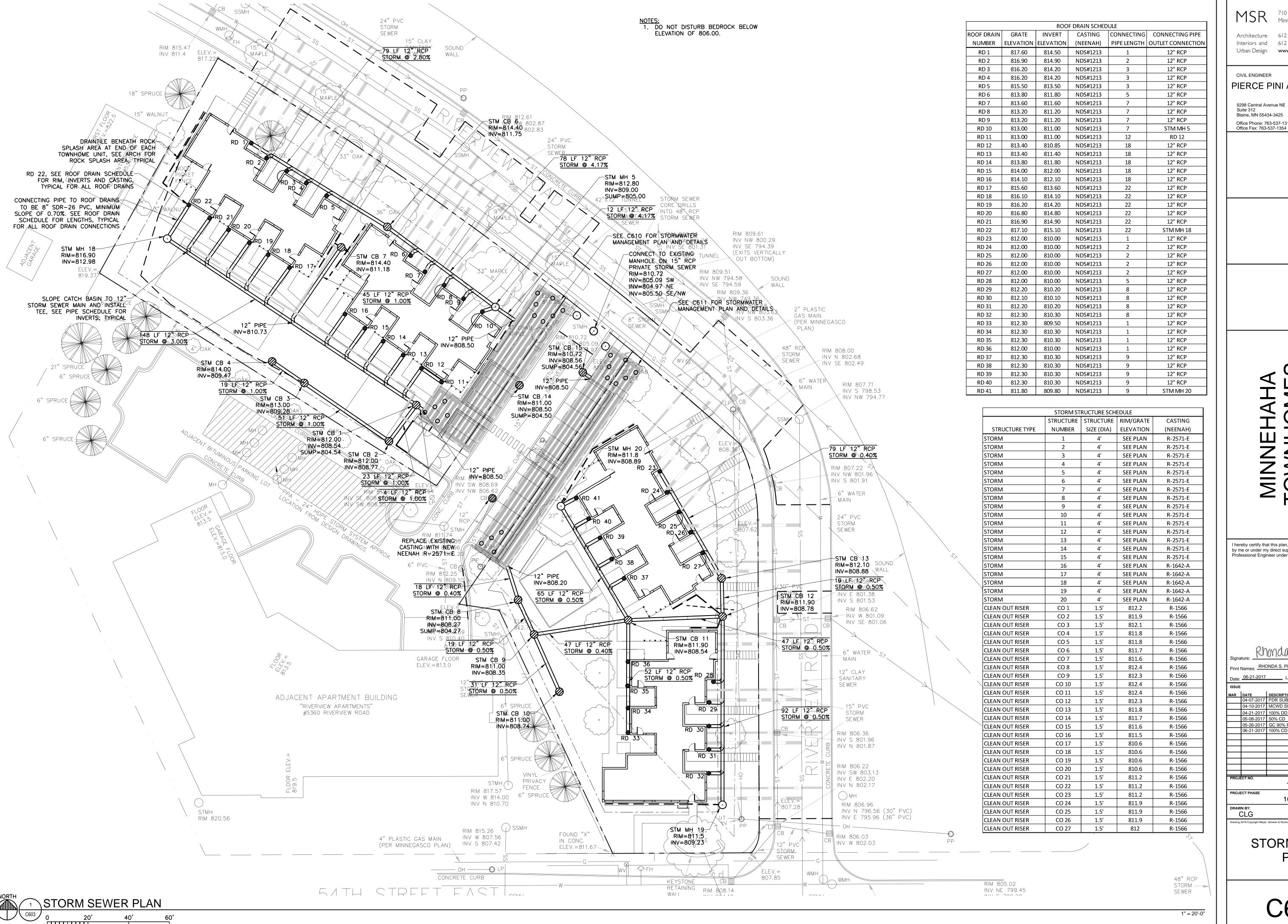
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SANITARY SEWER





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int Names: RHONDA S. PIERCE \_\_\_\_\_ License No:\_\_\_\_\_

 
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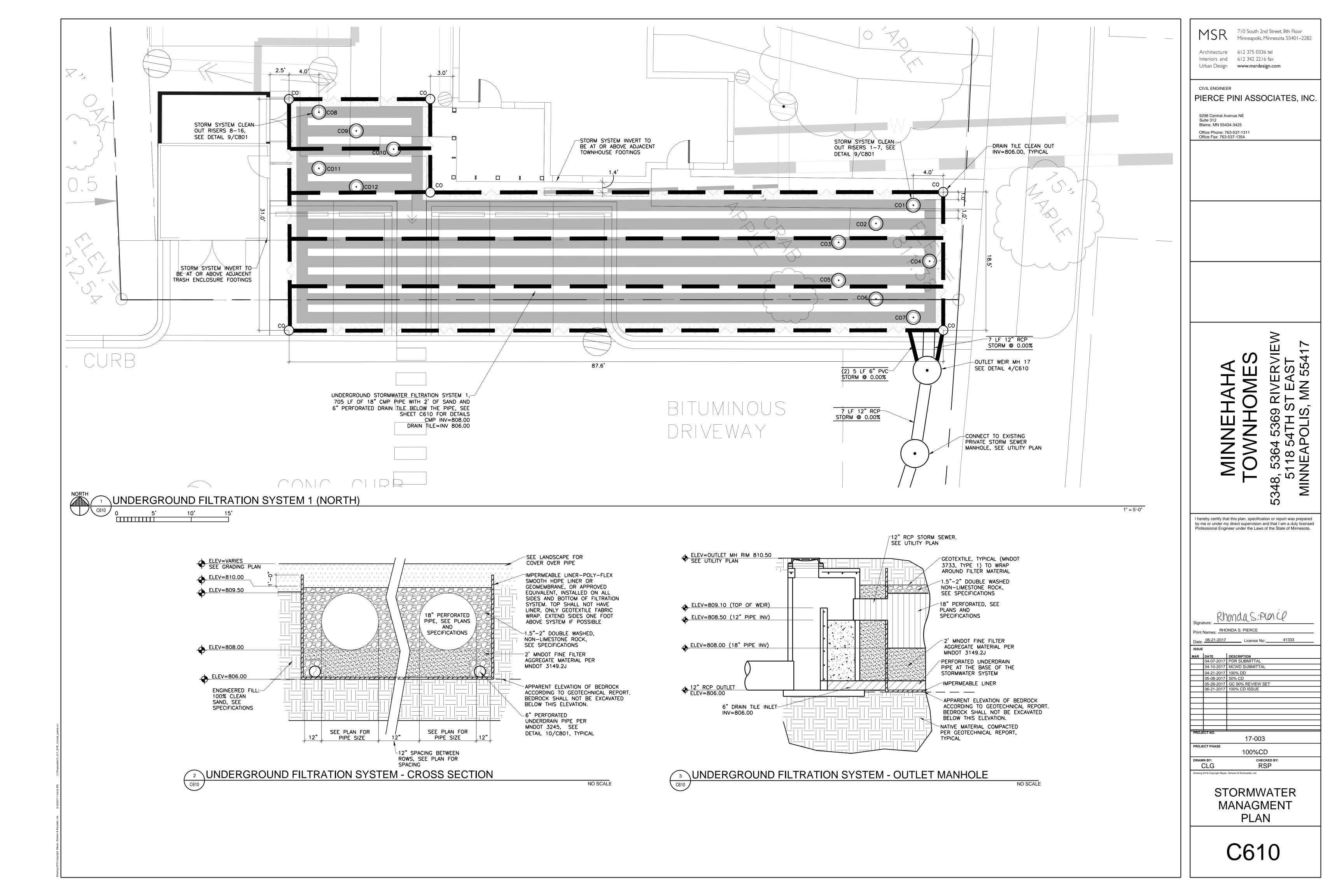
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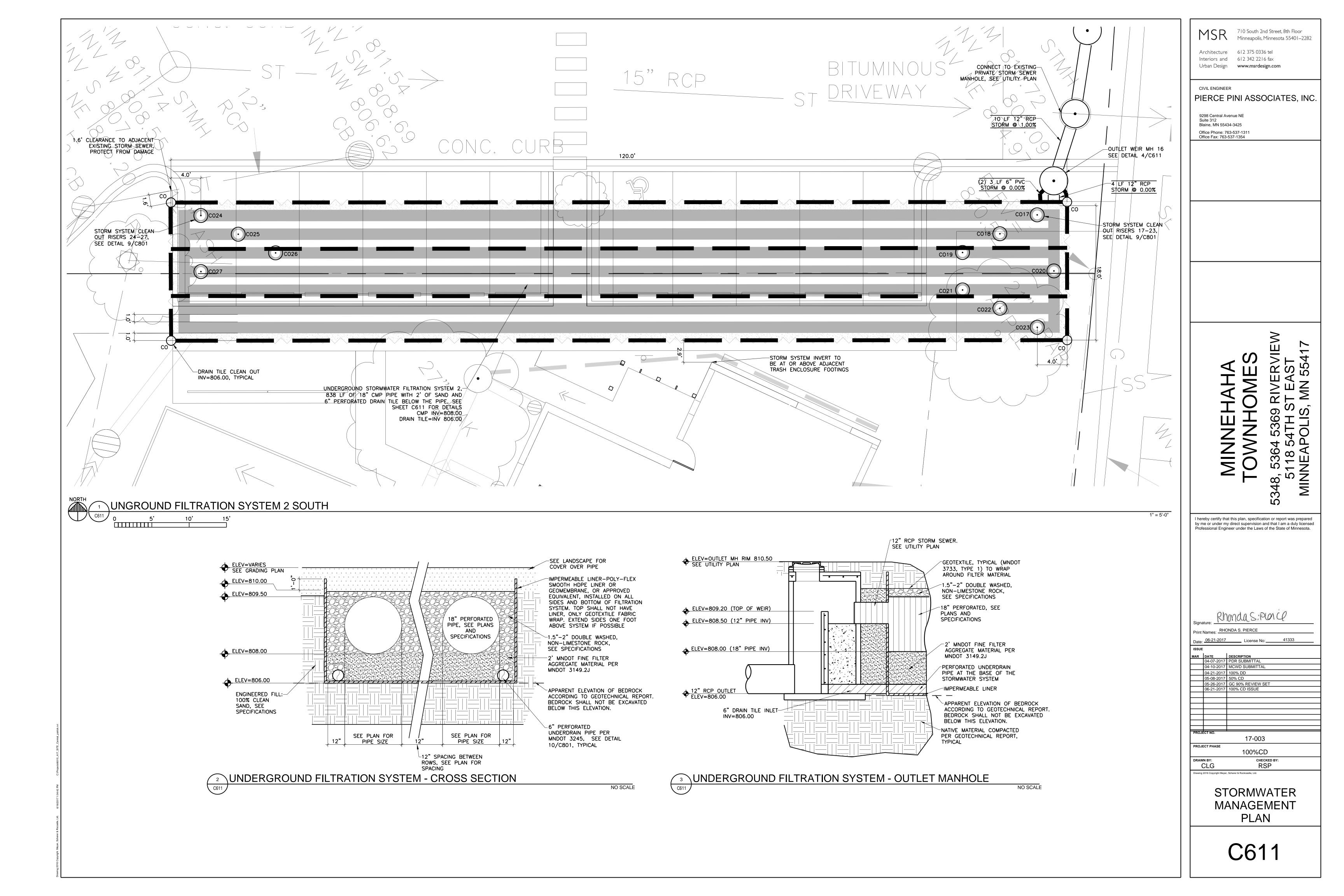
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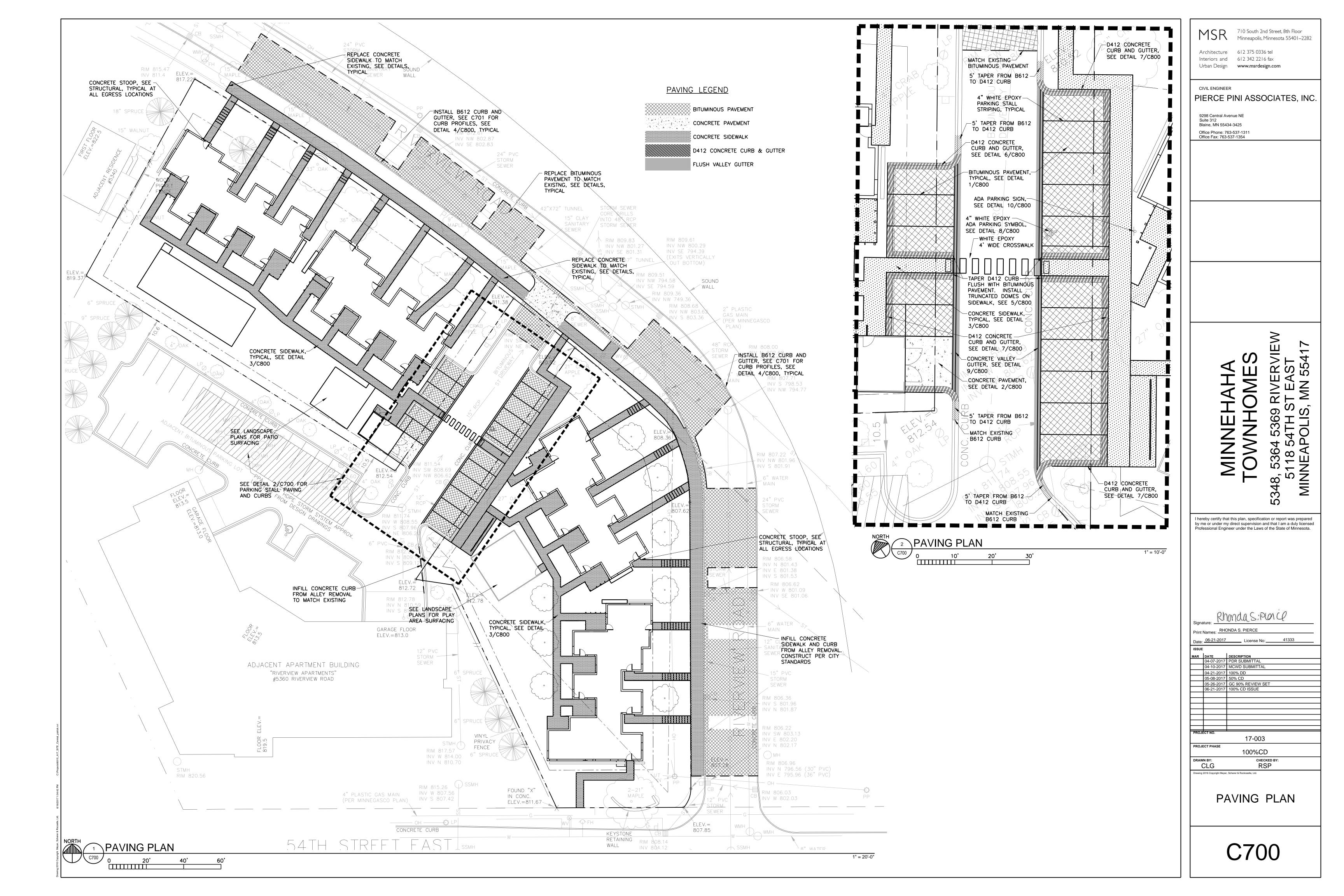
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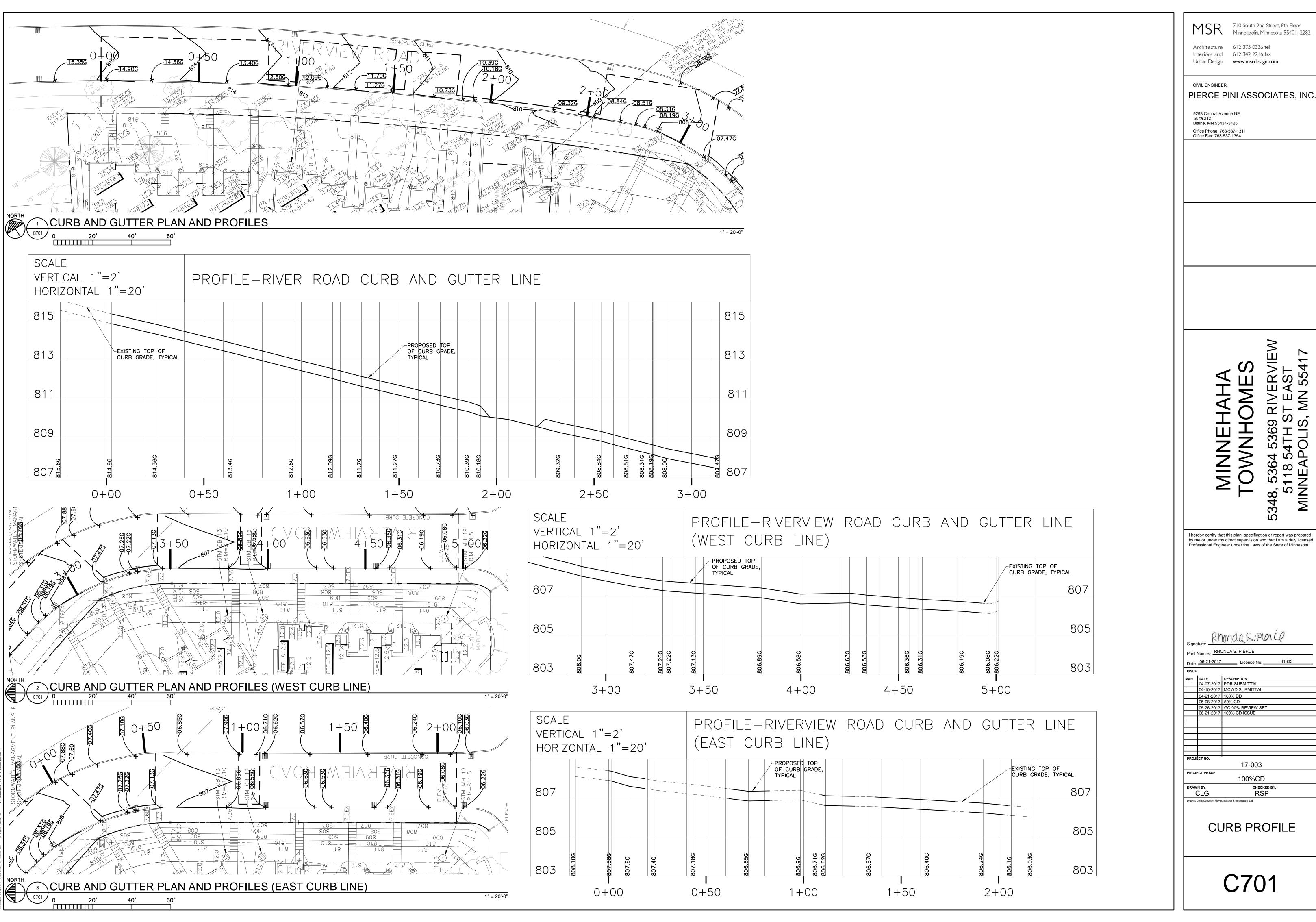
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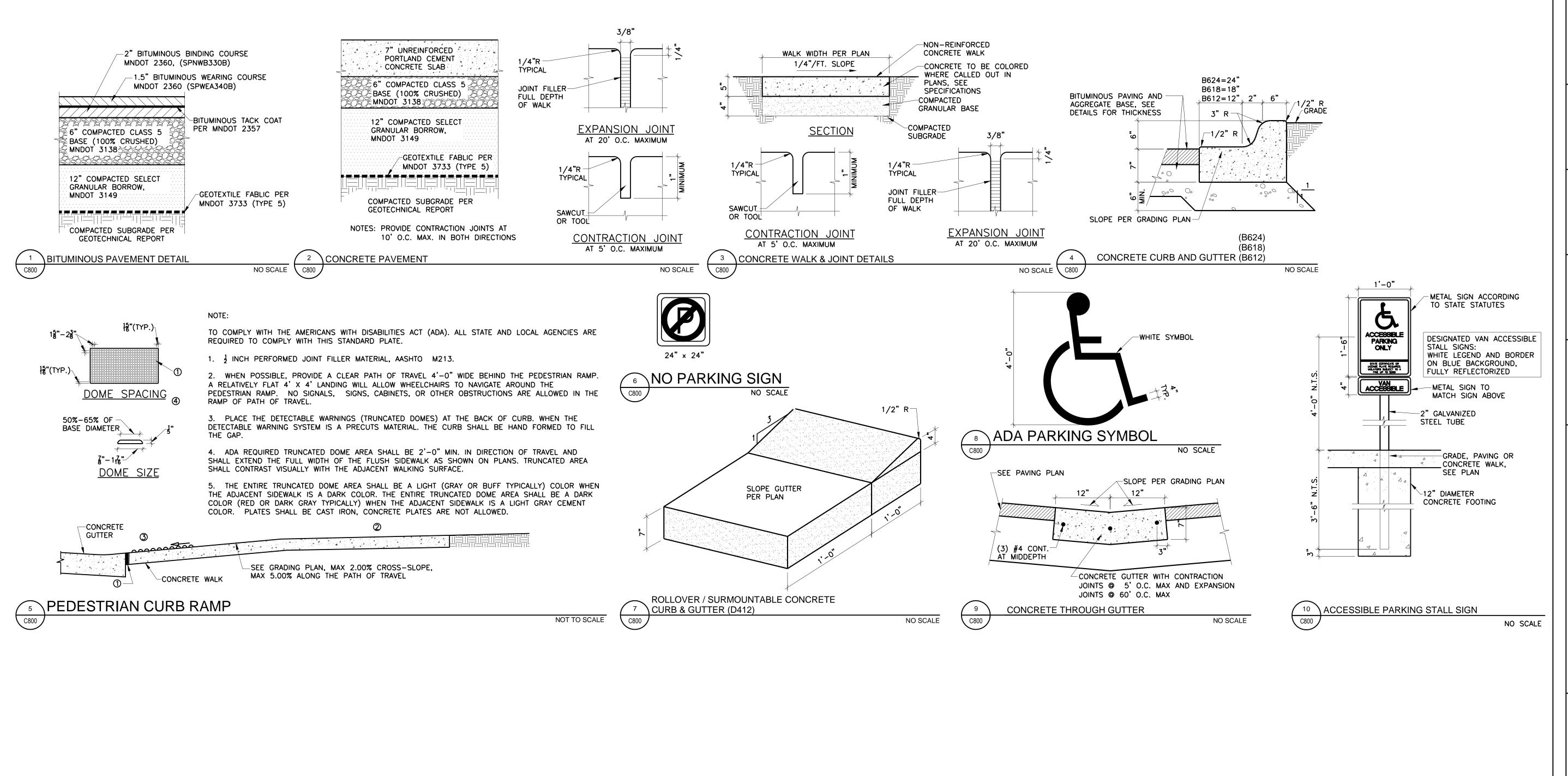
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TOWNHOMES

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Rhonda S: Plan Cl

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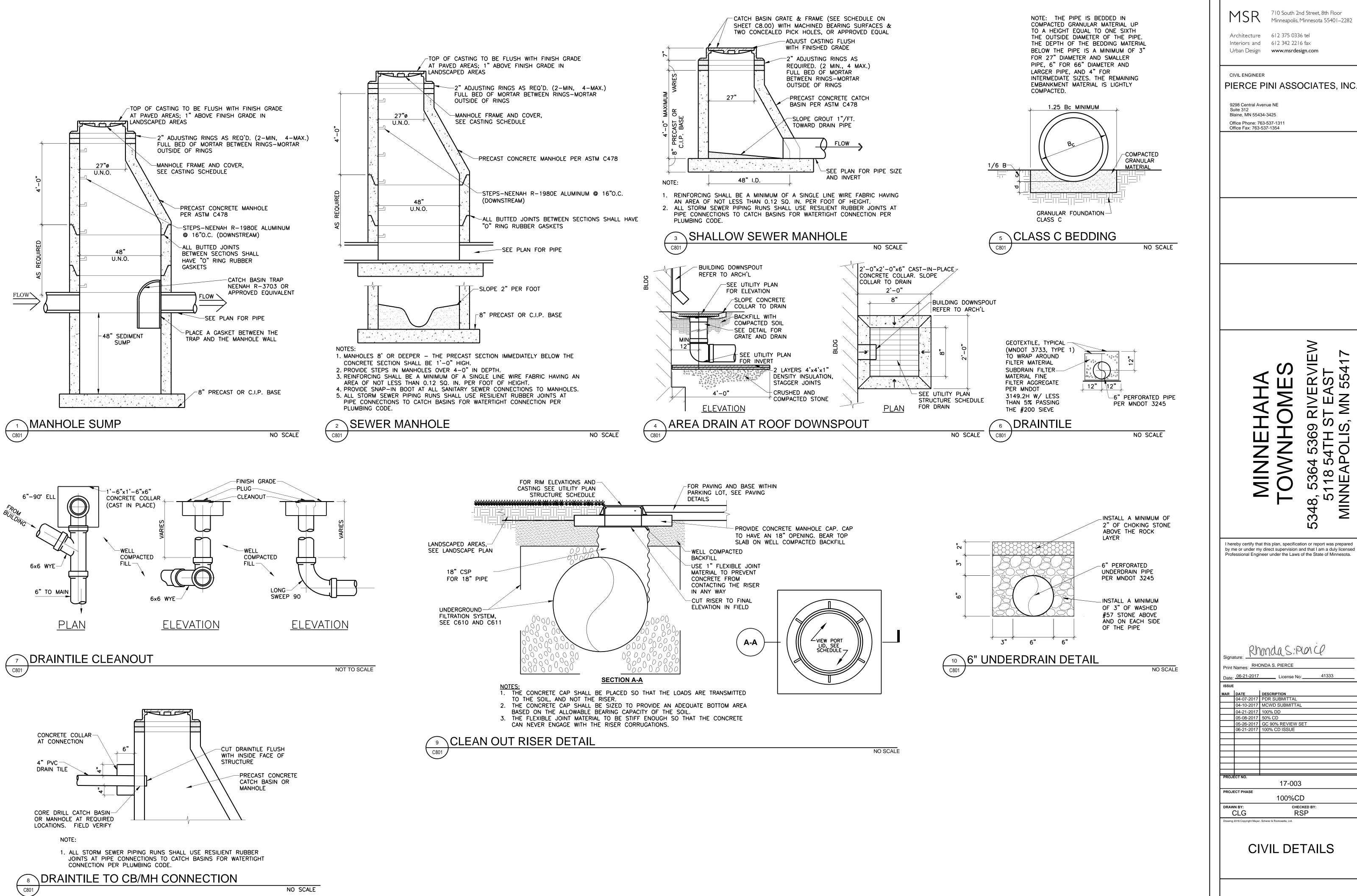
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RHONDA S. PIERCE

 
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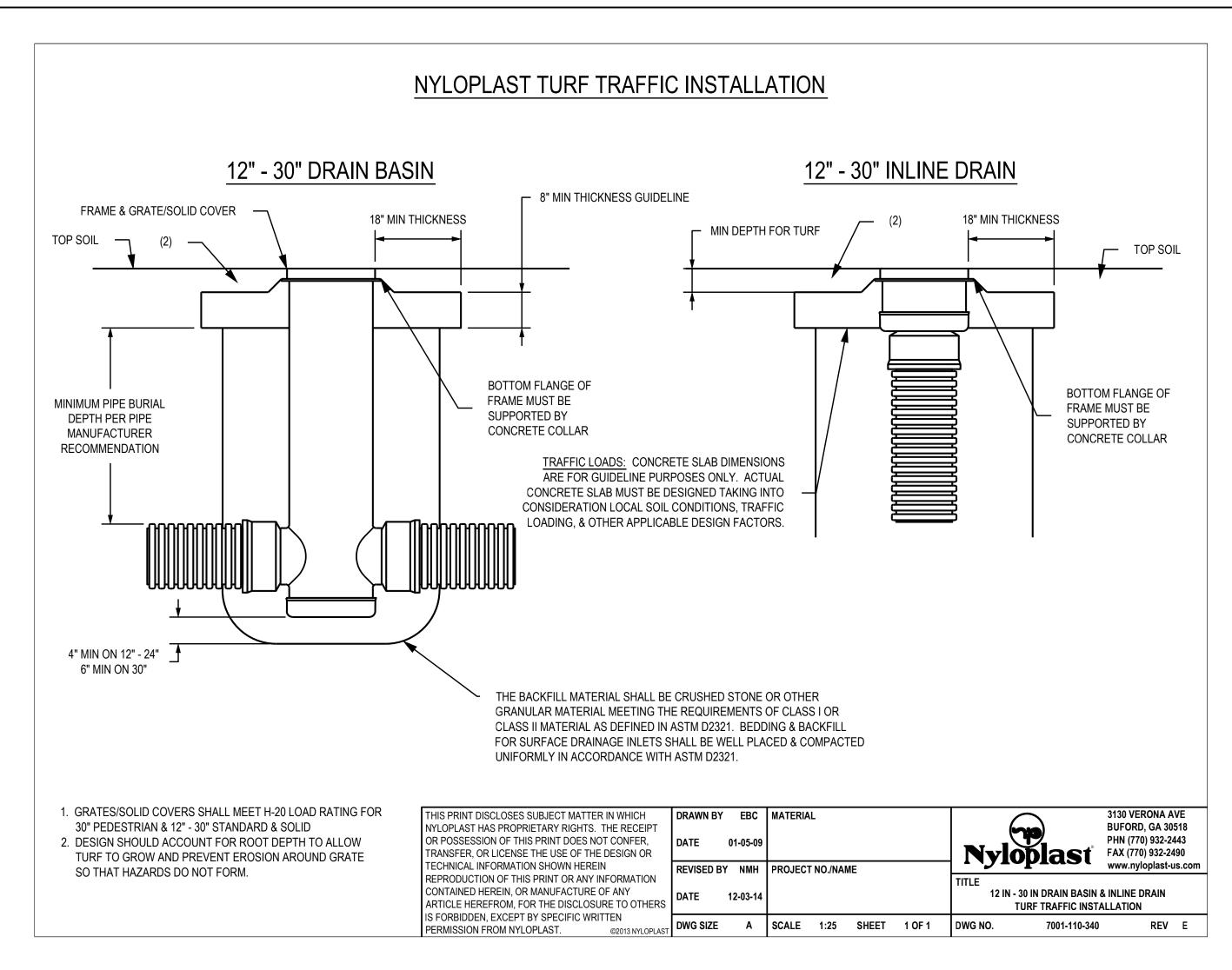
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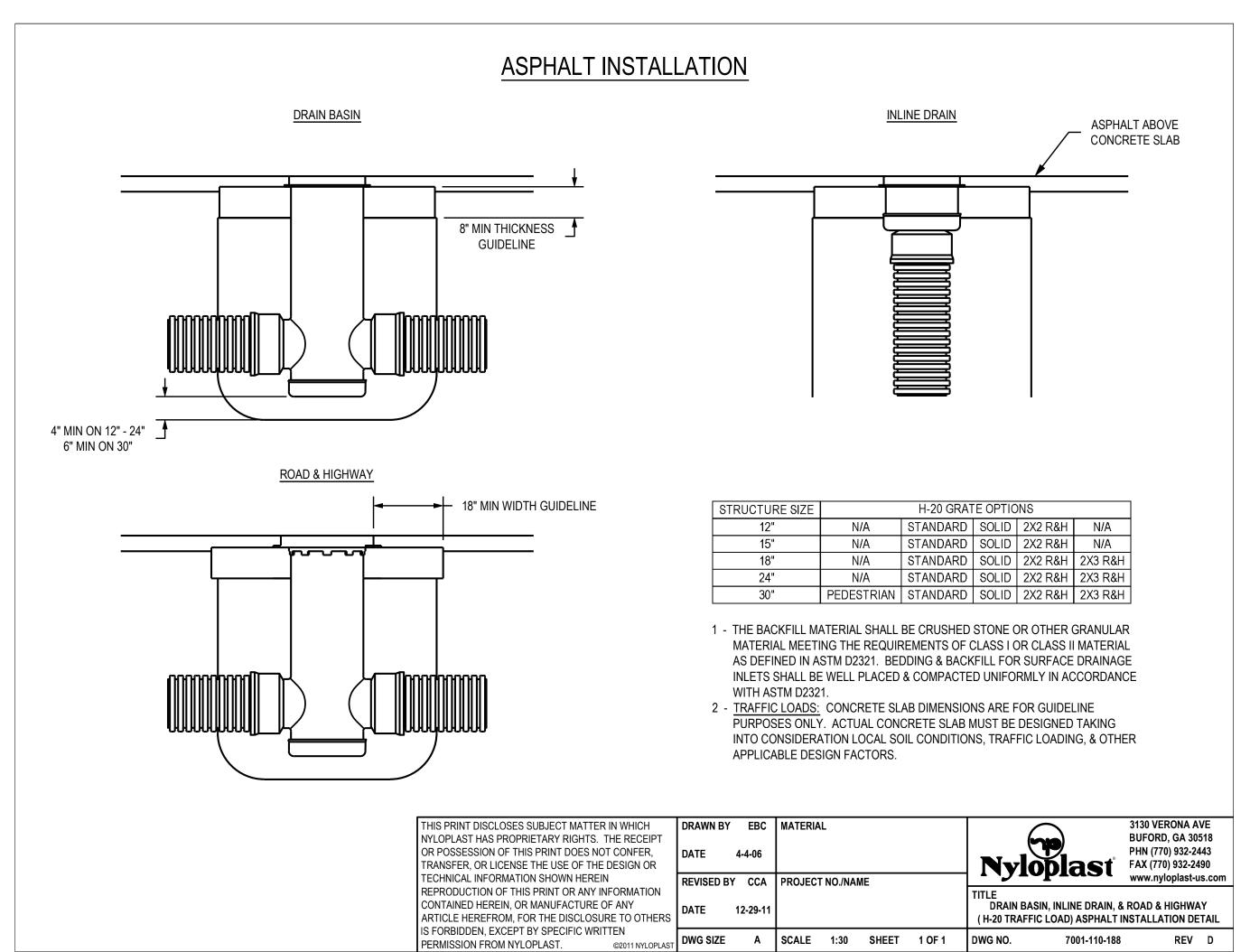
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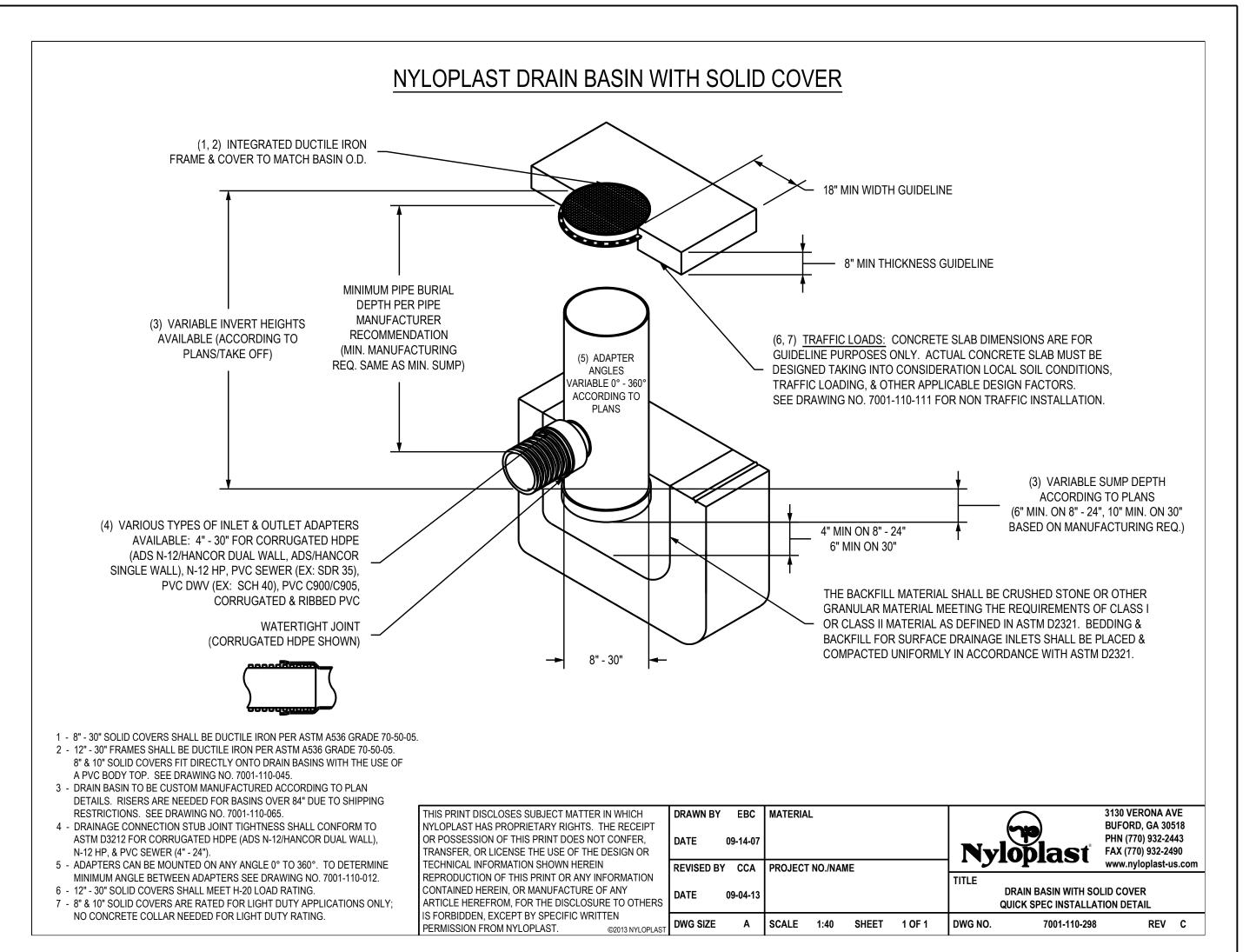
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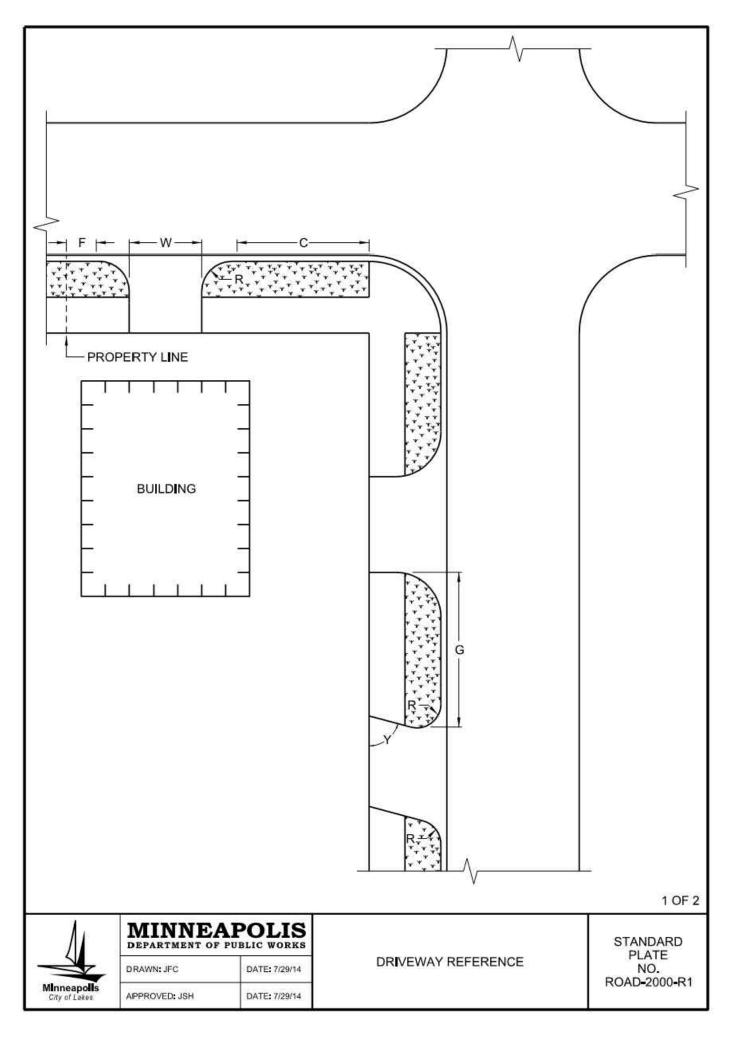
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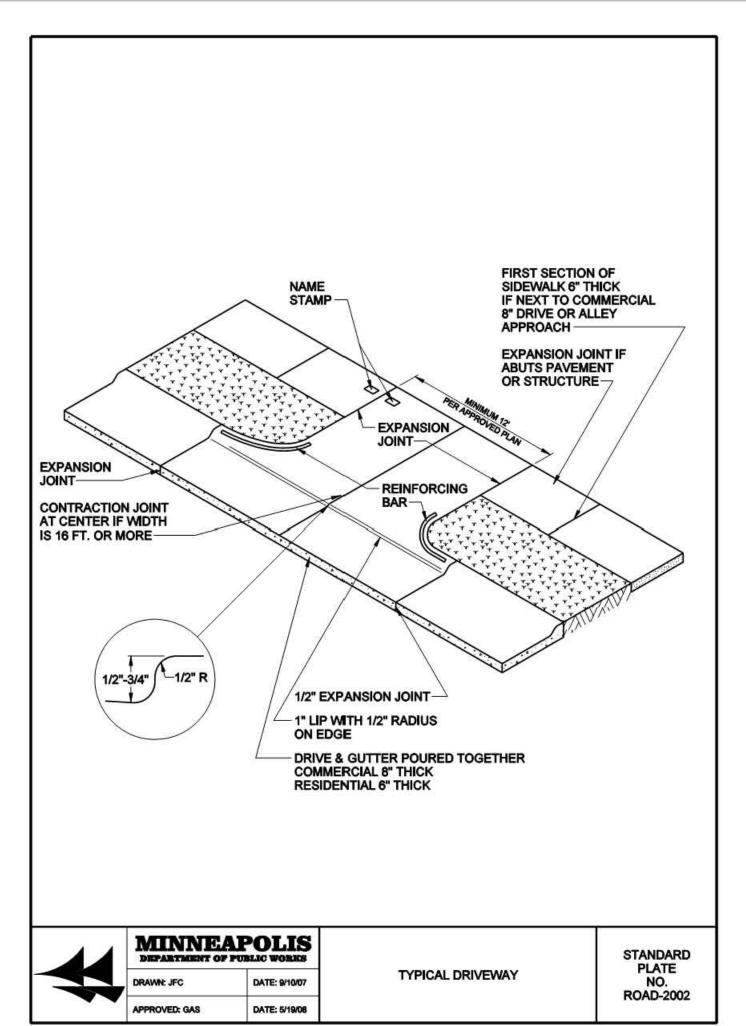
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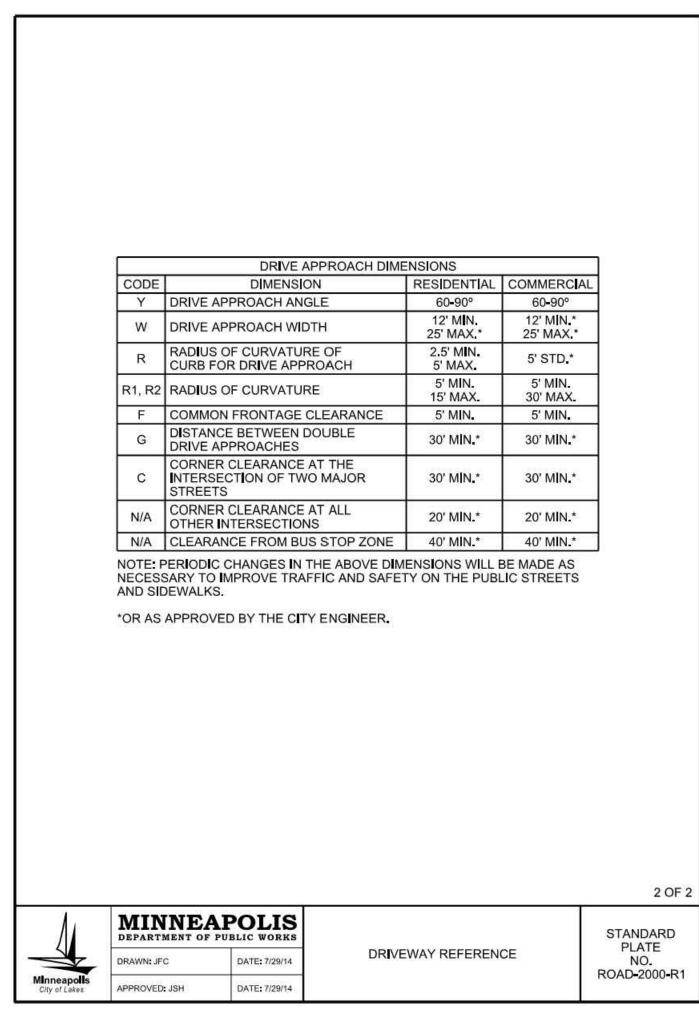
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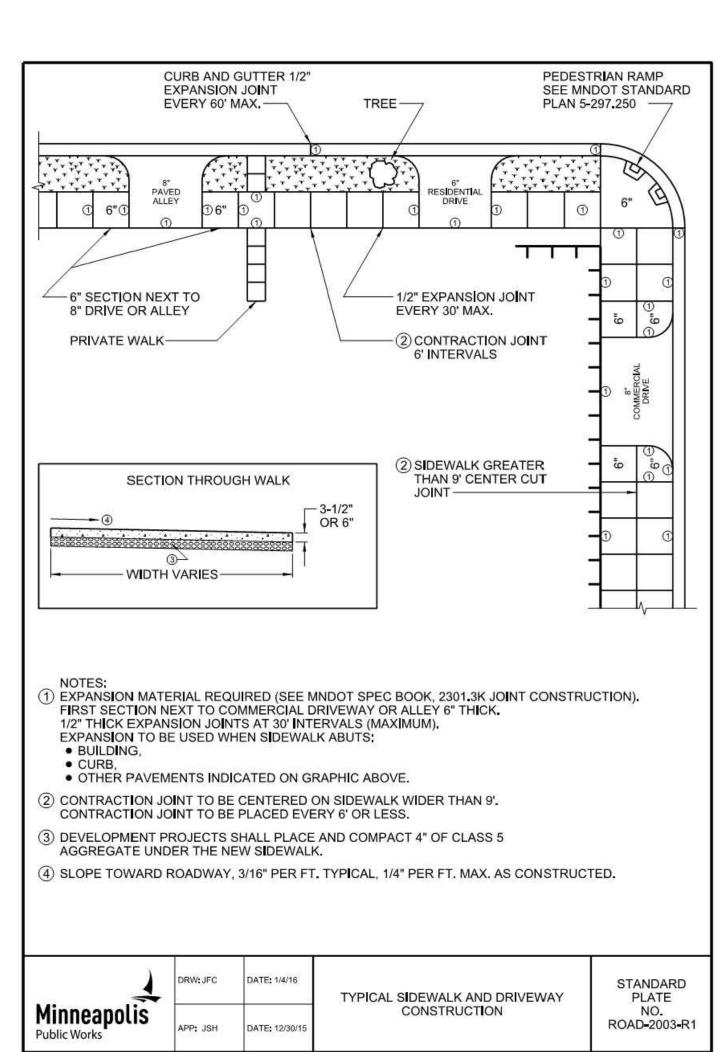
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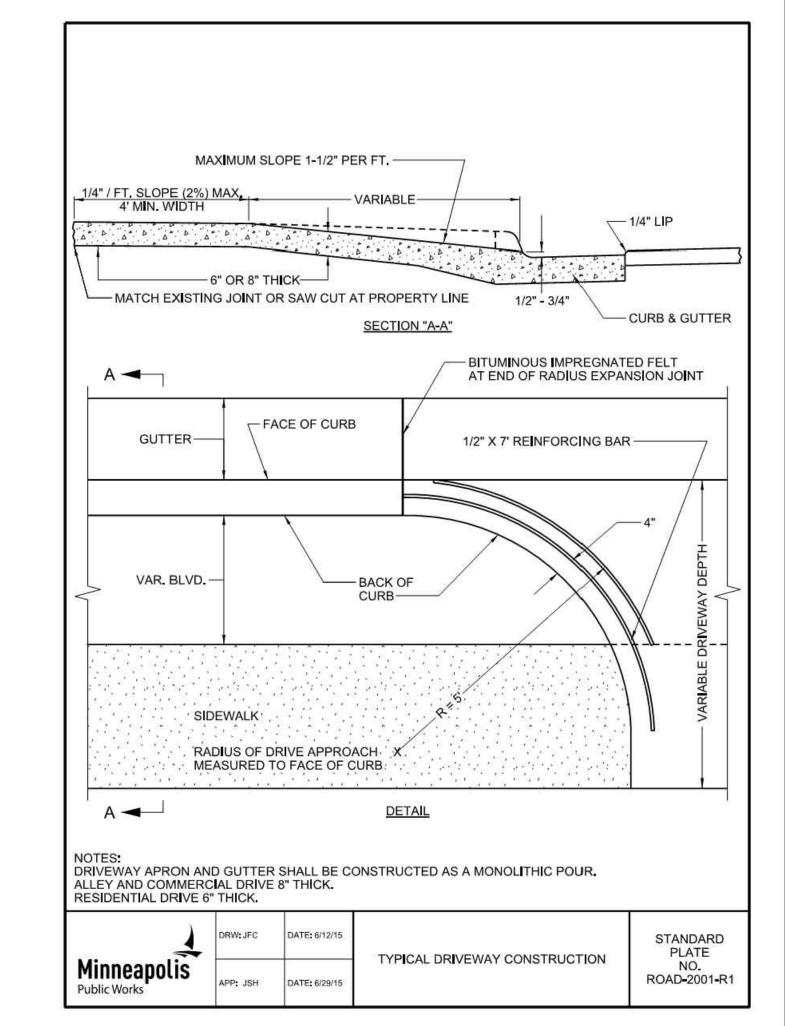
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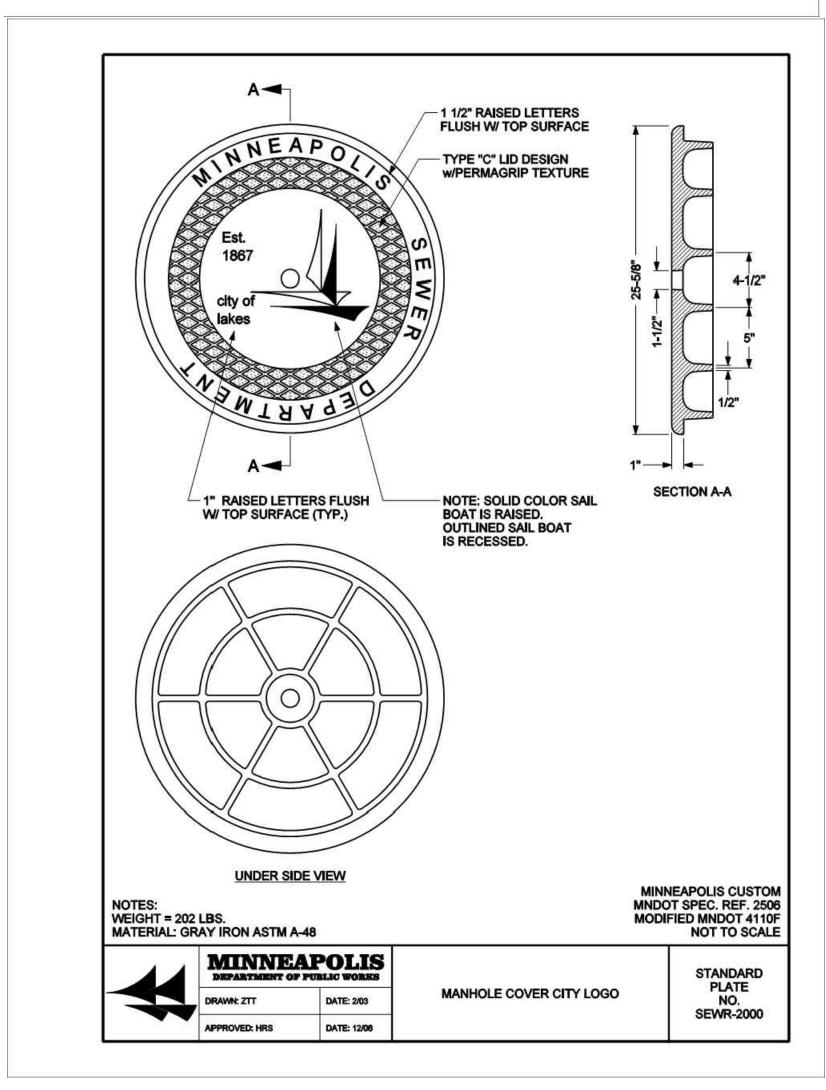












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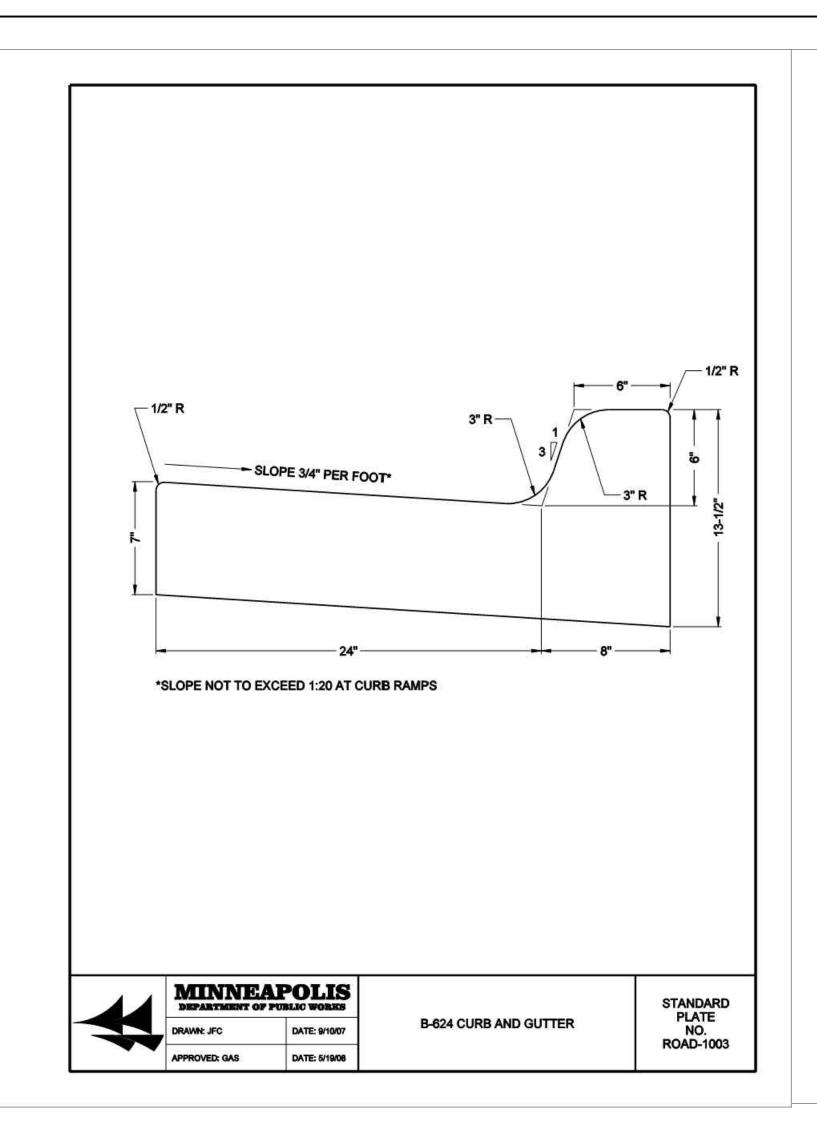
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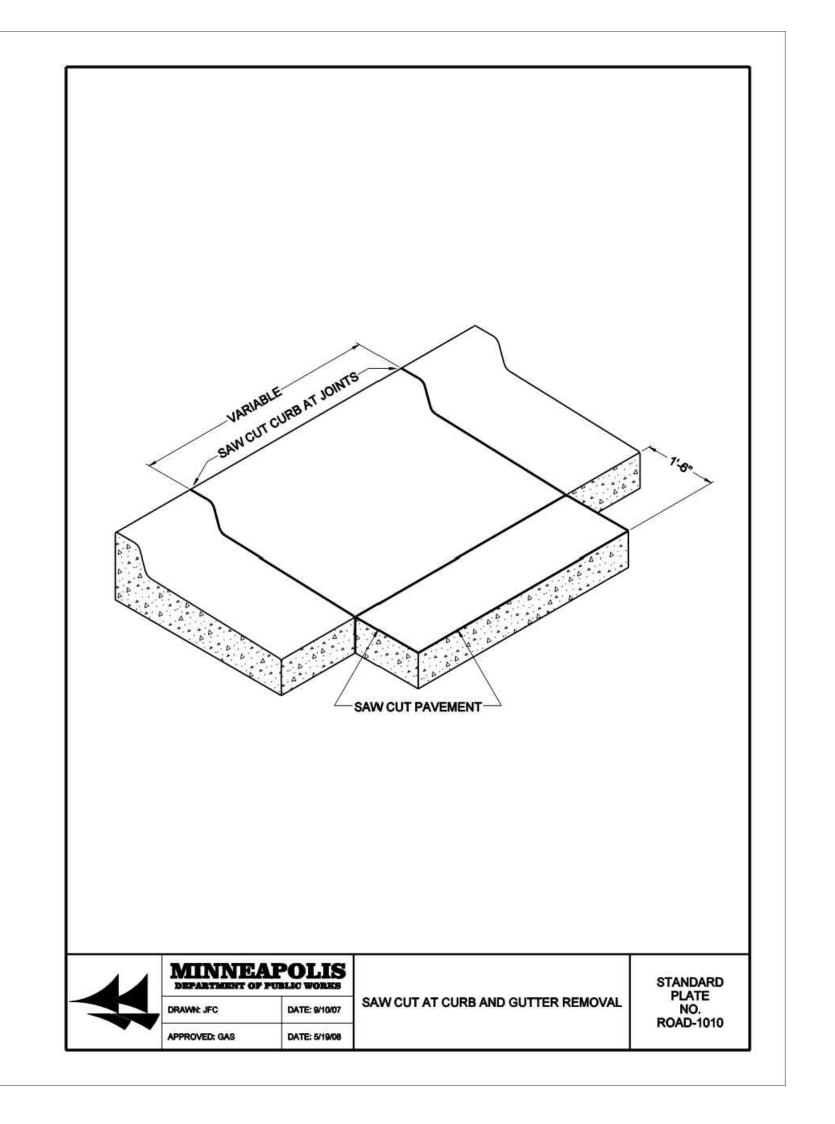
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#### **MATERIAL STRENGTHS**

```
Structural Steel
              Misc. structural steel - ASTM A36, Fy = 36 ksi
              f 'c = compressive strength in 28 days
                   4,000 psi unless noted otherwise
                   3,000 psi for footings
                   3.000 psi for masonry corefill & concrete on metal deck
                   3,500 psi for lightweight concrete on metal deck
              Concrete Masonry Units - ASTM C90
              f 'm = net area compressive strength of masonry
                      based on IBC table 2105.2.2.1.2
                      2,000 psi
Structural Lumber
              All dimensional lumber - #2 Spruce Pine Fir (SPF) or equal
               Treated lumber - #2 Southern Pine or equal
              Laminated Veneer Lumber (LVL)
```

```
E = 1.900.000 psi
                     Fb = 2600 psi
DESIGN LOADS
                            20 psf (10 psf top chord + 10 psf bottom chord)
                            Roof snow load = 35 psf typical + drifting (see plan sheet)
Floors
                     Dead load
                            15 psf
                     Live loads
Wind
                     90 mph (3 second gust)
```

Exposure B. I = 1.0

#### **DESIGN CODES**

Minnesota Building Code (2015)

## REFERENCE CODES

Construction (TPI 1-2007)

#### International Building Code (IBC-2012)

American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI 7-10) American Concrete Institute - Building Code Requirements for Structural Concrete - (ACI 318-11) American Concrete Institute - Building Code Requirements for Masonry Structures - (ACI 530-11) American Forest & Paper Association - National Design Specifications for Wood Construction with 2012 Supplement (ANSI/AWC - NDS-2012) Truss Plate Institute - National Design Standards for Metal-Plate Connected Wood Truss

#### **GENERAL NOTES**

The contractor is solely responsible for site safety including all temporary precautionary measures and safety programs. Site observation visits by the SER do not include review of the contractor's safety precautions.

## SUBMITTALS

Submit all submittals for all materials and/or products in a given system at one time. The contractor shall review and stamp all submittals prior to the SER's review Stamp will include: Signature or initials certifying that all materials and/or products are in accordance with the requirements of the design documents. Allow ten (10) business days for review and response for each submittal for review excluding delivery time to and from the Contractor. When revised for resubmission, identify all changes made since previous submission. Submittals not requested will not be recognized or processed. All engineering design and associated calculations provided by others and submitted to the SER for review must bear a certification stamp and signature of a qualified professional engineer who is licensed in the state where the project is located. The following items are to be issued as deferred submittals per 2015 Minnesota State Building

Code Section 1300.0130: Prefabricated wood roof and floor trusses

All items issued as deferred submittals are to be issued a minimum of 30 days prior to installation and must not be installed until their design and submittal documents have been reviewed for general conformance to the drawings by the general contractor, the SER and the building official. A copy of the deferred submittal must be forwarded to the authority having jurisdiction (AHJ) after the SER has reviewed the documents and prior to the erection of the deferred submittal items. Deferred submittal items must not be installed until approved by the AHJ.

# COORDINATION - ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL ITEMS

Contractor shall verify all dimensions and conditions on site with the plans before construction begins. All discrepancies must be reported immediately. Location, dimensions and details of recesses, depressions, openings, and equipment supports must be verified by reference to architectural, civil, electrical, and mechanical drawings

# **EXISTING CONDITIONS**

Contractor shall verify all dimensions, elevations, and details of existing structure where they affect this construction prior to fabrication

Remove and replace existing architectural, electrical, mechanical, structural, civil, and miscellaneous as necessary.

# TEMPORARY BRACING

Contractor is responsible for bracing, without overstressing, all structural elements as required at all stages of construction until completion of this project. Provide temporary lateral support for all walls until walls are adequately braced by permanent structure. Shore foundation walls retaining earth until floor framing and basement slab are in place. Use caution when operating equipment adjacent to foundation walls.

# **GENERAL SOIL NOTES**

The structure has been designed using an allowable soil bearing pressure of 2500 psf, as stated in the geotechnical report number 17.61872.100, prepared by Northern Technologies, LLC, dated The structure must be located on the site as indicated in the geotechnical report. The geotechnical report recommendations are valid for a specific structure location and conditions. If any of the

following conditions of the structure change, notify the geotechnical engineer immediately: the

structure location, design loads, grading, and/or the size of the structure. Remove all top soil, un-compacted fill, and other poor soil from the construction site as determined by the geotechnical engineer. Slope the site to drain away from the building. The contractor shall verify the location of existing underground utilities, tanks and other obstacles

prior to beginning excavation. Remove all top soil, uncompacted fill, or other poor soil from the construction area. Slope the site to drain away from the building.

Install gutters and downspouts. Install drain tile. Backfill with granular soils.

#### FOOTINGS/FOUNDATIONS

All footings are to be formed. All stumps, roots and debris must be removed from the soil to a depth of at least 12" below the surface of the ground in the area occupied by the building. Footings shall

be placed on virgin soil or compacted granular fill. Wall footings are cast-in-place concrete with continuous reinforcing placed 3" clear of bottom and 2" clear at top and sides

Wall footings are centered under walls and column footings under columns. Wall footings shall be a minimum of 10" thick with a 4" projection each side of wall. Reinforce with 2 #4 continuous bottom bars

Column footings shall be a minimum of 12" thick, with plan dimensions as shown on drawing. Reinforce with #4 bottom bars at 8" on center each way. Provide 30 bar diameter lap at splices and full crossing lap at corners and intersections. Tie all

reinforcing in place. Set footing reinforcing on chairs or masonry brick to obtain 3" clearance from bottom of footing. Maintain minimum frost depth of 42" for all exterior footings. Footing elevations, if shown on the plan, indicate top of footing.

Top of footing shall be placed 8" below the top of slabs on grade, or placed to maintain frost depth, whichever is deeper. Step footings in a uniform manner using a 2:1 horizontal to vertical slope.

Cast dowels in footing for foundation walls above. Dowels shall be the same quantity, size, and spacing as the vertical wall reinforcing. Dowels shall be 30" long and extend to 3" clear of bottom

Contractor shall be responsible for implementing hot weather concrete requirements per ACI 305 and cold weather concrete requirements per ACI 306. Shore all foundation walls appropriately before backfilling and compacting.

Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the rim board shall be attached to the sill with a 20 gage metal angle clip at 24" on center, with five 8d nails per leg, or a connector supplying 230 pounds per lineal foot capacity. Foundations supporting wood shall extend at least 6" above the adjacent finished grade. At foundation endwalls, provide perpendicular full-height blocking at 24" on center in the first three joist spaces. Glue and nail to joists and subfloor. Attach to sill plate with 2 - USP MP5 clips or

The contractor shall verify the location of all existing underground utilities and tanks prior to beginning excavation

# CONCRETE

Provide ready-mixed concrete per ASTM C94. Portland cement shall be ASTM C150, Type I. Use only one brand of cement throughout the work. Provide concrete aggregates meeting the requirements of ASTM C33.

Maximum aggregate size shall be 3/4" for grade beams and slabs. Water shall be clean, free of deleterious amounts of acids, alkalis, or organic materials, and shall be considered potable. Provide admixtures to reduce water content, provide air-entrainment, or alter the quality of the

concrete to meet the job conditions. Reinforce poured concrete walls with #4 at 12" on center horizontally and #4 at 12" center vertically

Place reinforcing 2" clear to outside face and 1" clear to inside face of concrete wall. Provide #4 x 4'-0" long (equal legs) horizontal reinforcing corner bars at 12" on center at all corners of wall and 3 - #4 vertical support bars. All wall openings larger than 12" shall have 2 - #5 at all sides extending 2'-0" beyond each edge of opening with 2 - #5 x 4'-0" diagonal bars at each corner of opening. Wall reinforcing shall be continuous through columns and pilasters.

Provide full development and splice lengths per Concrete Reinforcing Steel Institute (CRSI) or ACI 318 requirements.

All concrete exposed to weather, freeze-thaw conditions or de-icing chemicals shall contain 5% -7% entrained air

Slump shall be determined by ASTM C143 as follows: 3" - 4" Footings Walls, columns 3" - 5" Slabs on grade 3" - 4" Structural slabs, beams 3" - 4"

Concrete shall not bear permanently on wood members.

Concrete shall not be laid when the temperature of the outside air is below 40 degrees Fahrenheit. unless approved methods are used during construction to prevent damage to the concrete. All materials used and surfaces built upon shall be free of snow and ice. Wood beams pocketed into concrete shall be provided with a 1/2" air space on top, end, and sides unless treated wood or steel plates are used

8" - 11"

# **SLABS ON GRADE**

Masonry grout

All slabs on grade shall be reinforced with either WWF6x6-W1.4 x W1.4 in center of slab or 3.0 pounds per cubic yard polypropylene fiber reinforcement. Slabs on grade adjacent to foundation walls retaining earth shall be a minimum of 3 1/2" thick. Construction and/or control joints shall occur at a maximum of 10'-0" on center at exterior slabs on grade, and at a maximum of 16'-0" on center at interior slabs on grade. Construction and/or control joints shall be laid out in a rectangular pattern with long to short side ratio less than or equal to 1.5 and with no re-entrant corners. Control joints for slabs on grade shall be saw cut as soon as concrete can accept it without raveling

Do not cut structural slabs or topping slabs. All control/construction joints shall be continuous and not staggered or offset. Control joints shall be cleaned and sealed for curing purposes as soon as possible. Verify floor finishes and control/construction joint locations with owner and architect.

# REINFORCED CONCRETE MASONRY WALLS

Hollow unit concrete masonry shall be ASTM C90. Mortar shall be per ASTM C270: Type M or S for below-grade and exterior masonry; Type N for all interior above-grade masonry.

All masonry units shall be placed in running bond. Provide special shapes for jambs, columns, pilasters, control joints, corners and lintels. See plans for location and spacing of reinforcement in walls. When one bar is in a single core. place in center, unless noted otherwise. When two bars are in a single core, place one near each

Place at least one vertical reinforcing bar in wall corners.

Vertical steel shall be lapped 48 bar diameters at all splices. Provide full mortar bedded face shells and webs around all grouted cells for full bearing and to prevent leakage into adjacent cells. Grout shall be per ASTM C476.

Fill masonry core at vertical columns with 3,000 psi grout vibrated in place. Wall construction shall not exceed heights of 4'-0" before placement of core grout unless cleanout holes are provided at the bottom of each grout lift, then a maximum height of 8'-0" before placement of core grout.

Provide ladder or truss style horizontal joint reinforcing, fabricated with galvanized 9 gauge wire, placed every 2nd course.

Provide bond beam with 2 - #5 at all floor lines, roof lines and top of walls. Provide corner bars with 2'-0" legs for each horizontal bar in all bond beams at corners and intersecting walls.

Refer to dimension lumber notes for anchor bolt requirements. Masonry shall not be laid or grouted when the temperatures of the outside air is below 40 degrees Fahrenheit, unless approved methods are used during construction to prevent damage to the masonry. All materials used and surfaces built upon shall be free of snow and ice. Wood beams pocketed into masonry shall be provided with a 1/2" air space on top, end, and sides unless treated wood or steel plates are used. Solid grout the masonry voids below beam a

minimum of 2 courses below bearing. Masonry shall not bear permanently on wood members.

#### **DIMENSION LUMBER**

Design assumes lumber is free of significant splits and checks, and contractor will visually inspect during installation Sills and all other lumber in contact with concrete or masonry and within 8" of finished grade shall be preservative treated wood. In crawlspaces or unexcavated areas within the building foundation. wood shall be preservative treated for joists within 18" of exposed ground and/or girders within 12" of exposed ground.

Preservative treated wood shall be in accordance with the American Wood Protection Association, Standard U1.

All lumber is to be grade stamped, which is to contain grading agency, mill number or name, grade of lumber, species or species grouping or combination designation, rules under which graded, where applicable, and condition of seasoning at time of manufacture. All lumber shall be seasoned to a moisture content of 19% or less, with the indication of "S-Dry" on the grade stamp.

All lumber shall be protected from the elements. Sill plates to be bolted to foundation wall with 5/8" diameter anchor bolts at 4'-0" on center maximum. Bolts to extend 13" minimum into solidly grouted foundation wall. Each sill plate to have

a minimum of 2 bolts with one bolt located not more than 12 inches or less than 4 1/2 inches from each end of the plate section. Use 1/8" x 2" washers, slightly crushing plate. Minimum nailing shall be in accordance with Table R602.3(1) of the 2006 IRC unless noted otherwise.

All walls shall have a single bottom plate and double top plate. Exterior walls shall be 2 x 6 studs at 16" on center unless noted otherwise.

Interior bearing walls shall be 2 x 4 studs at 16" center unless noted otherwise. Interior non-load-bearing walls shall be 2 x 4 studs at 16" on center unless noted otherwise Typical openings to have a minimum of 2 bearing (trimmer or jack) studs and 1 full-height king stud. Headers not noted to be 2 - 2 x 6 up to 4'-0" span and 2 - 2 x 8 from 4'-0" to 6'-0" span. Wood headers shall have a minimum 3" length of bearing at each end or bear the entire length of the bearing studs.

Beams shall bear on a minimum of 3" along their length and fully along their width and have a minimum of 2 typical wall studs supporting them

Joists shall bear the full width of supporting members (stud wall, beams, etc.). Provide solid vertical blocking at all joist spaces below wood columns. Provide matching columns to foundation at lower levels below columns comprised of 3 or more studs. All beams and joists not bearing on supporting members shall be framed with prefabricated joist

Beams or headers made of 2 - 2x's with 1/2" spacer shall be nailed together with 16d nails (.162" x 3 1/2") at 16" on center along each edge, typical for each lumber ply. Spacing of bridging for joists shall not exceed 8'-0".

Double all joists under parallel partitions. All plywood and OSB shall be installed per American Plywood Association standards, including the use of construction adhesive for fastening to floor joists. All fasteners and hangers in contact with treated lumber shall be G185 hot dipped galvanized or

Lumber grading rules and wood species shall conform to Voluntary Product Standard PS 20-99 as published by the Department of Commerce. Grading rules shall be by an agency certified by the Board of Review of the American Lumber Standards Committee.

Performance requirements, adhesive bond performance, panel construction and workmanship, dimensions and tolerances, marking, and moisture content of Wood-based Structural-use Panels shall conform to Voluntary Product Standard PS 2-92, as published by the Department of Commerce.

#### **WOOD TRUSSES**

Responsibilities of the contractor, building designer, truss manufacturer, and truss designer shall follow the publication "TPI 1-2002 National Design Standard for Metal Plate Connected Wood Truss Truss supplier shall notify SER of any proposed revisions to the layout indicated on this plan. Revisions that affect the structural design will not be allowed without prior written approval by the

Verify allowable bearing locations for girder trusses with SER prior to final design stage. Provide metal bearing enhancers as necessary to utilize stud columns shown on plan. All prefabricated wood trusses shall be furnished in accordance with designs prepared by a professional engineer licensed in the state in which the project is located, using the design loads and span conditions indicated, including designing gable end truss webs for perpendicular to face

Submit certified calculations with shop drawings. Truss manufacturer shall provide a truss layout and certified truss drawings prior to beginning

Trusses shall be designed for top and bottom chord superimposed dead and live loads as indicated

Truss supplier shall design trusses to support additional dead load from, but not limited to, sprinkler lines, and rain leader systems, piping, cable trays, ductwork, etc., as per IBC. Coordinate with mechanical/electrical as required. General contractor to verify location and magnitude of all such loads with truss supplier and SER prior to fabrication of trusses.

See architectural plans for attic draft stop locations and design roof trusses accordingly. Live load deflection of roof trusses shall be limited to 1/240 of the span. Live load deflection of floor trusses shall be limited to 1/480 of the span. Design trusses for top chord bearing or bottom chord bearing as shown on drawings. Truss configuration, pitch, overhang, etc. shall be indicated on the architectural drawings.

Spacing of roof trusses shall not exceed 24" on center. Spacing of floor trusses shall not exceed 19.2" on center. Lumber for wood trusses shall be in accordance with manufacturer's recommendations. Truss manufacturer to provide girder trusses, hip jacks, and step-down trusses as required and designed to support all superimposed loads. Provide hip-sets, dormers, and piggy-back trusses as required.

Truss manufacturer to specify if roof sheathing needs to be applied before placing "over-framing". Provide metal framing anchors at truss bearing to mechanically fasten truss to bearing wall or supporting member as shown in details. Truss manufacturer shall provide truss to truss connection hangers. Bridging, and bracing of truss compression and tension members, shall be installed in accordance

with the truss manufacturer's design and directions. No cutting, notching, or modifications of trusses will be allowed without the manufacturer's written

Contractor shall provide permanent and temporary diagonal, lateral, and cross bracing in accordance with the publication "BCSI 1-03 Building Component Safety Information, Guide to Good Practice for Handling, Installing and Bracing of Metal Plate Connected Wood Trusses" by the Truss Plate Institute and Wood Truss Council of America and as otherwise necessary. For spans longer than 60ft., contractor shall hire a structural engineer to design the necessary bracing. Permanent bottom chord bracing and web bracing shall be located as shown on the truss drawings and shall be minimum 2 x 4 with 2 - 16d nails to end walls and trusses, lapping two truss spaces at

# **WALL SHEATHING**

Wood panel wall sheathing must be minimum 1/2" nominal (15/32") thick panels rated per APA for the spacing of the supporting members. A minimum 32/16 span rating is recommended. Provide Exterior or Exposure 1 grade.

Fasten wood panel wall sheathing with 8d nails (.131" diameter x 2 1/2") spaced at 4" OC at supported edges and 12" OC at intermediate supports. Leave an 1/8" gap at all end and edge joints to allow for expansion. Stagger end joints of panels. Gypsum wall sheathing must be a minimum of 1/2" thick fastened with 6d cooler or wallboard nails at 4" OC to all framing members. Panels must be continuous over two or more spans and the long panel dimension may be either perpendicular or parallel to supports.

All edges must be blocked. Refer to plan and notes for any special shear wall nailing and bolting conditions.

# **ROOF SHEATHING**

Roof sheathing shall be minimum 19/32" thick APA rated panels, rated for spacing of supporting members. A minimum of 40/20 span rating is recommended. Provide panel clips, one between each support, for supports spaced greater than 16" on center. Provide Exterior or Exposure 1 grade. Panels shall be continuous over two or more spans, and long dimension of panel shall be perpendicular to supports. Fasten roof sheathing with 8d nails (.131" diameter x 2 1/2") spaced at 4" on center at supported edges and 8" on center at intermediate supports. Leave an 1/8" gap at all end and edge joints to allow for expansion. Design of roof sheathing assumes that the roof will be properly insulated and ventilated. Refer to APA publication N335N "Proper Installation of APA Rated Sheathing for Roof Applications."

#### FLOOR SHEATHING

Floor sheathing shall be minimum 23/32" thick tongue and groove APA rated panels, rated for spacing of supporting members. A minimum of 48/24 span rating is recommended. Provide Exposure 1 grade. Panels shall be continuous over two or more spans, and long dimension of panel shall be perpendicular to supports. Fasten sheathing with construction adhesive and 10d nails (.148" diameter x 3") spaced at 4" on center at supported edges and 8" on center at intermediate supports.

#### **ENGINEERED LUMBER I-JOISTS**

I-joist members noted on drawings are manufactured by the iLevel - Weyerhaeuser Company. Alternate at contractor's option to have same nominal depth with equivalent or better design

I-joist supplier shall notify SER of any proposed revisions to the layout indicated on this plan. Revisions that affect the structural design will not be allowed without prior written approval by the

All wood I-joists shall be furnished in accordance with designs prepared by a professional engineer licensed in the state in which the project is located, using the design loads and span conditions indicated Submit certified calculations with shop drawings.

I-joist manufacturer shall provide a layout and certified drawings prior to beginning construction. I-joists shall be designed for superimposed dead and live loads as indicated above. I-joist supplier shall design I-joists to support additional dead load from, but not limited to; sprinkler lines, and rain leader systems, piping, cable trays, ductwork, etc., as per IBC. Coordinate with mechanical/electrical as required. General contractor to verify location and magnitude of all such loads with I-joist supplier and SER prior to fabrication.

Depths shown on plan are actual. Live load deflection of roof joists shall be limited to 1/240 of the span. Live load deflection of floor joists shall be limited to 1/480 of the span. Design I-joists bearing conditions as shown on drawings.

I-joists shall bear the full width of supporting members. Install web stiffeners, blocking between members, and nail to supporting members as per manufacturers recommendations

I-joist manufacturer shall provide connection hangers as required. No cutting, notching, or modifications of I-joists will be allowed without the manufacturer's written Notching or cutting of I-joist flanges is not permitted.

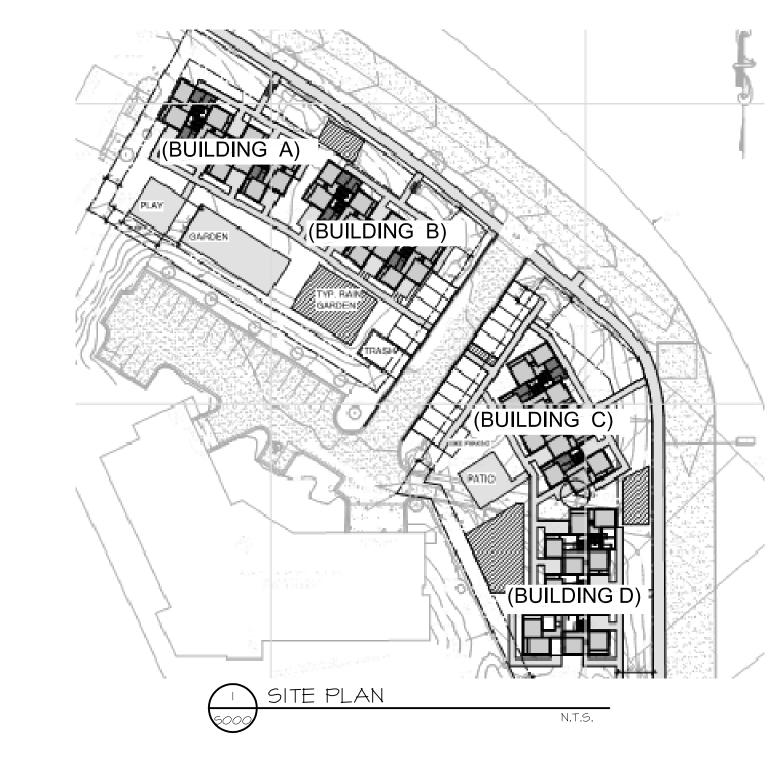
Web openings may occur under strict limitations indicated by the joist manufacturer. Properly designed open web parallel chord pre-engineered wood trusses with same nominal depth may be provided in lieu of I-joists with prior approval of SER.

LVL members noted on drawings are engineered laminated veneer lumber as manufactured by the iLevel - Weyerhaeuser Company. Alternate at contractor's option of equal design properties. Sizes shown on plan are actual size.

#### ADHESIVE/MECHANICAL ANCHORS

Adhesive and mechanical anchors shall be provided and installed in strict accordance with the manufacturer's instructions. Concrete adhesive anchoring system to be Hilti HIT HY-200. Masonry adhesive anchoring system to be Hilti HIT HY-70. Mechanical anchoring system for concrete and grouted CMU to be HILTI Kwik Bolt 3 or Hilti Kwik

HUS-EZ screw anchor Alternate anchoring system may be submitted for approval. Reference drawings for additional information and requirements.



SHEET INDEX			
5000	STRUCTURAL NOTES, SITE PLAN AND SHEET INDEX		
5001	SCHEDULES, PLAN NOTES AND SPECIAL INSPECTIONS		
S100	FOOTING AND FOUNDATION PLAN - BUILDING A - 2-3-3-3		
SIOI	FOOTING AND FOUNDATION PLAN - BUILDING B - 2-3-3-3		
SI02	FOOTING AND FOUNDATION PLAN - BUILDING C - 2-3-3-3		
SI <i>0</i> 3	FOOTING AND FOUNDATION PLAN - BUILDING D - 2-3-3-4		
S200	SECOND FLOOR FRAMING PLAN - BUILDINGS A,B,C - 2-3-3-3 SHED AND RECYCLING PLANS		
S20I	SECOND FLOOR AND LOW ROOF FRAMING PLAN - BUILDING D - 2-3-3-4		
S300	ROOF FRAMING PLAN AND ROOF TRUSS LOADING PLAN - BUILDINGS A,B,C - 2-3-3-3		
5301	ROOF FRAMING PLAN AND ROOF TRUSS LOADING PLAN - BUILDING D - 2-3-3-4		
S400	FOUNDATION SECTIONS & DETAILS		
S500	SECOND FLOOR FRAMING SECTIONS & DETAILS		
5600	ROOF FRAMING SECTIONS & DETAILS		

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901 North 3rd Street, Sulte 100 Minneapolis, MN 55401 612-827-7825 voice 612-827-0805 fax

HNMO. R R S Z Z S 

hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the Laws of the State of Minnesota.

362 368 18 18 NN

ADAM JESSE NEIGEBAUER \_\_\_\_\_ License No: \_\_\_\_ 47773 MAR DATE DESCRIPTION 100% DESIGN DEVELOPMENT ISSUE 50% CONSTRUCTION DOCUMENTS ISSUE 5/08/2017 GC 90% REVIEW SET 5/26/2017 6/21/2017 100% CD ISSUE PROJECT NO. 17060 PROJECT PHASE CD CHECKED BY: DLH AN

STRUCTURAL NOTES, SITE PLAN AND SHEET INDEX

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GALVANIZED LOOSE LINTEL SCHEDULE			
STEEL SHAPE	NOTES		
L5 × 3 1/2 × 5/16	FASTEN TO WOOD STUD BACK UP WALL AT 16" OC. OR HEADER. SEE DETAILS 4/5400, 2/5500 AND 2/5600 FOR ADDN'L INFO.		

HANGER SCHEDULE			
MEMBER	SIMPSON HANGER		
2 - I 3/4 × 9 I/4 LVL	HU5410		

	SHEAR WALL SCHEDULE SW7							
MARK	BLOCK HORIZ	SHEATHING	NAIL SPACING		SPACING		rKS	
	JOINTS			EDGE	DGE FIELD			
SMI	S	5/8" PLYWOOD SHEATHING	10d	6	12			
SW2	YES	5/8" PLYWOOD SHEATHING	lOd	4	12	2 - PLY END POSTS SEE NOTE #5		
SM3	YES	1/2" GYPSUM SHEATHING	#6 SCREW	4	12	TYPICA OF THE	L BOTH SIDES WALL.	

#### SHEAR WALL NOTES:

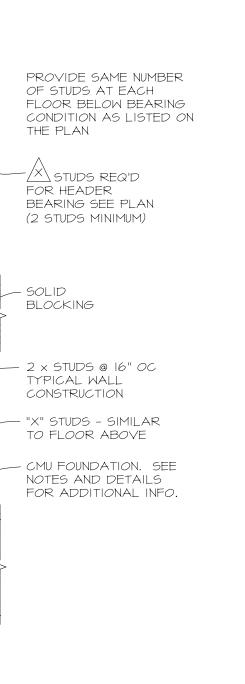
- I. ANCHORAGE AND CONNECTION DETAILS ARE PROVIDED TO ENSURE PROPER LOAD TRANSFER TO THE FOUNDATION. WALLS NOT NOTED SHALL BE ANCHORED AS OTHERWISE SPECIFIED IN THESE CONSTRUCTION DRAWINGS/SPECIFICATIONS.
- 2. SEE ARCH FOR WALL SHEATHING/FINISHES.
- - INDICATES SHEAR WALL HOLDOWN LOCATION AS FOLLOWS:
  - A. PROVIDE SIMPSON HTT4 HOLDOWN W/18 IOd x I I/2" NAILS.

HEADER,

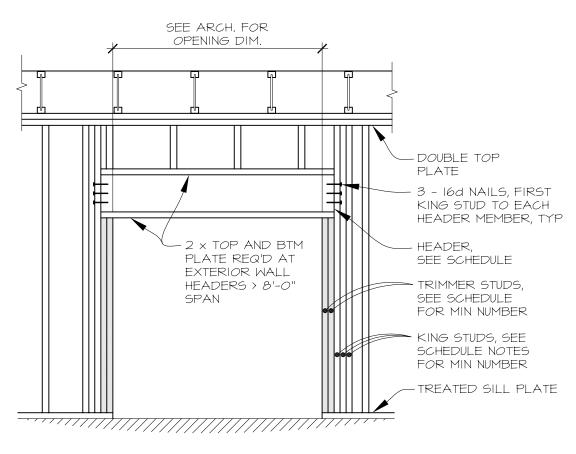
FLOOR -

SEE PLAN

- B. PROVIDE 5/8" Φ HILTI HAS RODS W/WASHERS. DRILL AND EPOXY WITH HILTI HIT HY70 (14") EMBED. C. PROVIDE VERTICAL STEEL REINFORCMENT IN MASONRY FOUNDATION WALL AT ALL HOLDOWN LOCATIONS.
- D. PROVIDE FULLY GROUTED CELLS IN THE FOUNDATION WALLS 2' ON EACH SIDE OF HOLDOWN LOCATION.
- 4. PROVIDE #12 STRUCTURAL WOOD SCREWS @ 8" O.C. FOR SILL PLATE ATTACHMENT TO RIM JOIST AT SHEARWALL TYPE SW2. EXTERIOR OPENINGS:
- 5. REFER TO STRUCTURAL NOTES FOR SHEATHING ATTACHMENT AT EXTERIOR WALLS, U.N.O.



1/2" = 1'-0"



WOOD BEAM/

BEARING HEADER

SIZE

 $(2) - 2 \times 6$ 

(2) - 2 × 8

 $(3) - 2 \times 8$ 

 $(2) - 2 \times 10$ 

 $(2) - 13/4" \times 71/4" LVL$ 

(3) - | 3/4" × 7 |/4" LVL

 $(2) - 13/4" \times 91/4" LVL$ 

(2) - | 3/4" × |4" LVL

"(X)" "INDICATES "FLUSH" BEAM/HEADER (TOP OF BEAM = TOP OF JOIST OR BOTTOM OF

INDICATED. FOLLOW SCHEDULE BELOW FOR ALL

HEADER

MIN NUMBER

TRIMMER STUDS

I - 2 ×

I - 2 ×

1 - 2 ×

I - KING STUD

2 - KING STUDS

I - KING STUD

2 - KING STUDS

2 - KING STUDS

BEAM = BOTTOM OF JOIST).

0'-0" TO 6'-0" | 2 - 2 × 6 |

> 6'-0" TO 8'-0" | 2 - 2 x 8 |

> 8'-0" TO 10'-0" | 2 - 2 × 10 |

SPAN 0'-0" TO 6'-0"

SPAN 0'-0" TO 6'-0"

SPAN > 6'-0" TO 8'-0"

SPAN > 8'-0" TO 10'-0"

SPAN > 6'-0" TO 12'-0"

STUDS AS FOLLOWS.

INTERIOR OPENINGS:

2. HEADERS IN INTERIOR AND EXTERIOR NON-LOAD BEARING WALLS ARE NOT

NON-LOAD BEARING WALL HEADERS.

> 10'-0" TO 12'-0" 3 - 2 x 10 2 - 2 x

KING STUDS:
PROVIDE THE FOLLOWING MINIMUM NUMBER OF KING

SPAN > 10'-0" TO 12'-0" 3 - KING STUDS

MARK

W2

W3

M4

W5

M6

NOTES:

	FOOTING SCHEDULE (-)					
MARK	SIZE	REINFORCEMENT				
А	16" × 12" THICK CONTINUOUS	2 - #5 CONTINUOUS				
В	20" × 12" THICK CONTINUOUS	2 - #5 CONTINUOUS				
C	24" × I2" THICK CONTINUOUS	2 - #5 CONTINUOUS				
D	1'-6" × 1'-6" × 12" THICK	2 - #5 x l'-0" EACH WAY BOTTOM				
E	2'-6" × 2'-6" × 12" THICK	3 - #5 x 2'-0" EACH WAY BOTTOM				

# FOOTING AND FOUNDATION NOTES:

## UNLESS NOTED OTHERWISE:

- I. UNLESS NOTED OTHERWISE, PROVIDE 4" CONCRETE SLAB ON GRADE W/3.0 POUNDS PER CUBIC YARD POLYPROPYLENE FIBER REINFORCEMENT. SEE DETAILS 2/S4 FOR TYPICAL SLAB ON GRADE
- 2. SEE ARCHITECTURAL DRAWINGS FOR SLOPED SLABS AND FLOOR DRAINS. TOP OF SLAB ELEVATION VARIES, SEE PLAN FOR TOP OF SLAB ELEVATION.
- 3. MAINTAIN MINIMUM OF 42" COVER (FINAL GRADE ELEVATION TO BOTTOM OF FOOTING) AT ALL EXTERIOR WALL FOOTINGS. STEP FOOTINGS AS NECESSARY TO MAINTAIN COVER AND TO CLEAR UNDERGROUND UTILITIES/SLOPED SLABS. SEE DETAIL I/S4 FOR TYPICAL STEPPED
- 4. REFER TO ARCHITECTURAL SHEET AOOI FOR THE SITE PLAN. THE TOP OF CONCRETE SLAB ON GRADE TYPICALLY = 100'-0". TOP OF EXTERIOR STRIP FOOTING ELEVATION = 96'-8". ADJUST AS NECESSARY TO MAINTAIN 42" COVER MINIMUM.
- 5. SEE 3/S400 FOR TYPICAL UNDERGROUND PIPING EXCAVATION.
- 6. REFER TO DETAILS FOR TYPICAL WALL REINFORCEMENT. UNLESS NOTED OTHERWISE, REINFORCE ALL 8" CMU WALLS W/#5 VERTS/DOWELS AT 48" OC. MINIMUM.
- 7. AT INTERIOR BEARING WALLS BETWEEN UNITS, GENERAL CONTRACTOR CAN REMOVE STEPPED FOOTINGS AND KEEP CONTINUOUS STRIP FOOTINGS AT FROST DEPTH FOR EASE OF CONSTRUCTION.

## FLOOR FRAMING NOTES:

#### UNLESS NOTED OTHERWISE:

- I. MARKS THUS: "- " INDICATES 9 1/2" TJI/110 JOISTS AT 19.2" O.C.; TYPICAL FLOOR FRAMING UNLESS NOTED OTHERWISE.
- 2. MARKS THUS: "/3\" INDICATE NUMBER OF STUDS REQUIRED FOR BEARING. IF NUMBER NOT SHOWN, PROVIDE A MINIMUM OF 2 STUDS, 3" LENGTH OF BEARING). FULL WIDTH OF BEAM/HEADER MUST BE SUPPORTED. WHERE POSTS CONSISTING OF 3 OR MORE STUDS OCCUR ON THIS LEVEL, IDENTICAL STUD POSTS SHALL BE CONSTRUCTED ON ALL FLOORS BELOW (TO FOUNDATION LEVEL). SOLID BLOCKING SHALL BE PLACED IN FLOOR FRAMING SPACE BETWEEN UPPER AND LOWER POSTS. SEE DETAIL I/SOOI FOR ADDITIONAL INFORMATION.
- 3. FLOORING SYSTEM SHALL CONSIST OF 3/4" TONGUE AND GROOVE PLYWOOD FLOOR SHEATHING (GLUED AND NAILED). ATTACH SHEATHING TO FLOOR FRAMING MEMBERS W/ IOd NAILS @ 4" O.C. AT PANEL EDGES AND @ 8" O.C. AT INTERMEDIATE SUPPORTS.
- 4. DASHED WALLS INDICATE WALLS SUPPORTED ON THIS FRAMING LEVEL.
- 5. EXTERIOR WALLS SHALL BE 2 x 6 STUDS @ 16" O.C. ADDITIONAL INTERIOR BEARING WALLS SHALL BE 2 x 4 & 2 x 6 STUDS @ 16" OC. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR BRICK VENEER.
- 7. TYPICAL STAIR STRINGERS SHALL BE (I) I 3/4 x II 7/8" LVL. (3) STRINGERS PER STAIR; (I) AT CENTER AND (I) AT EACH EDGE.
- 8. REFER TO ARCHITECTURAL DRAWINGS FOR TOP OF SUBFLOOR AT EACH BUILDING. ELEVATION VARIES.

# ROOF FRAMING NOTES:

# UNLESS NOTED OTHERWISE:

- I. MARKS THUS: " " INDICATE PREFABRICATED WOOD ROOF TRUSSES @ 24" OC. ANCHOR EACH TRUSS TO DOUBLE TOP PLATE W/ I - SIMPSON H2.5 HURRICANE ANCHOR (OR EQUAL) AT EACH BEARING LOCATION. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES. ROOF TRUSS ELEVATION VARIES, REFER TO ARCHITECTURAL DRAWINGS.
- 2. MARKS THUS: " TINDICATE VALLEY SET TRUSSES @ 24" OC. SEE STRUCTURAL NOTES FOR INFORMATION REGARDING HIP-SETS, DORMER FRAMING AND PIGGY-BACK TRUSSES, ETC.
- 3. ROOF SHEATHING SHALL BE APPLIED PRIOR TO PLACING "OVER -FRAMING". TRUSS SUPPLIER SHALL NOTIFY STRUCTURAL ENGINEER OF ANY PROPOSED REVISIONS MADE TO LAYOUT INDICATED ON THIS PLAN.
- 4. TRUSS SUPPLIER SHALL PROVIDE ALL HANGERS NECESSARY FOR TRUSS-TO-TRUSS CONNECTIONS.
- 5. VERIFY ALLOWABLE BEARING LOCATIONS FOR GIRDER TRUSSES W/ STRUCTURAL ENGINEER PRIOR TO FINAL DESIGN STAGE. PROVIDE METAL BEARING ENHANCERS AS NECESSARY TO UTILIZE STUD POSTS SHOWN ON
- 6. MARKS THUS:  $\frac{\sqrt{3}}{1}$  INDICATE NUMBER OF STUDS REQUIRED FOR BEARING. IF NUMBER NOT SHOWN, PROVIDE MINIMUM OF 2 STUDS (3" LENGTH OF BEARING). FULL WIDTH OF BEAM/HEADER/GIRDER TRUSS MUST BE SUPPORTED. WHERE POSTS CONSISTING OF 3 OR MORE STUDS OCCUR ON THIS LEVEL, IDENTICAL STUD POSTS SHALL BE CONSTRUCTED ON ALL FLOORS BELOW (TO FOUNDATION LEVEL). SOLID BLOCKING SHALL BE PLACED IN FLOOR FRAMING SPACE BETWEEN UPPER AND LOWER POSTS. SEE DETAIL I/SOOI FOR ADDITIONAL INFORMATION.
- 7. ROOF SHEATHING SHALL BE 5/8" PLYWOOD/OSB (MINIMUM). ATTACH SHEATHING TO ROOF FRAMING MEMBERS W/ IOd NAILS @ 4" OC AT PANEL EDGES AND @ 8" OC AT INTERMEDIATE SUPPORTS.
- 8. EXTERIOR WALLS SHALL BE 2 x 6 STUDS @ 16" O.C. ADDITIONAL INTERIOR BEARING WALLS SHALL BE 2 x 6 \$2 x 4 STUDS @ 16" O.C. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING
- 9. SEE ARCHITECTURAL DRAWINGS FOR BRICK VENEER LOCATIONS.
- II. SEE 3/5600 FOR TYPICAL TRUSS BLOCKING DETAIL WHEN HEEL HEIGHT IS GREATER THAN 18".

#### SPECIAL INSPECTIONS

REQUIRED SPECIAL INSPECTIONS

The contractor shall include in the bid the cost of all testing and inspections indicated on the plans and in the specifications, including special inspections required by the building code. The actual contracting of the inspection and testing services shall be in accordance with the division of responsibility dictated by the Minnesota Building Code.

IBC Section 1705 requires that in addition to the inspections required by Section 110, the owner shall employ one or more special inspectors who shall provide inspections during construction of certain types of work.

"Special inspection" concerns work requiring observation and judgement and shall be performed by a structural engineer (or a designated person under the supervision of the engineer). "Testing" involves the analysis of materials in accordance with approved standards and shall be performed by an independent testing agency.

The contractor shall coordinate the testing and inspection services in accordance with the progress of the work. The contractor shall provide sufficient prior notice to the testing and/or inspection agency of the required work to allow proper scheduling of personnel. The cost of any retesting or additional inspections as a result of failed tests and rejected work shall be borne by the contractor.

This project requires a STRUCTURAL TESTING AND SPECIAL INSPECTION SCHEDULE, to be signed by the Owner, Contractor, Architect, Structural Engineer of Record and Testing Agency. Refer to the program summary schedule for frequency of testing and inspections.

DESCRIPTION OF			INSPECTION		TESTING		X1/A	REMARKS
	ORK IBC SECTION		YES	NO	YES	NO	N/A	
1.	Welding	(1705.2.1)						
2.	Struct Steel Details	(1705.2.1)						
3.	High-strength Bolting	(1705.2.1)						
4.	Concrete Construction	(1705.3)						4a, 4b, 4c, and 4c
5.	Structural Masonry	(1705.4)						5a, 5b, and 5c
6.	Wood Assemblies	(I7 <i>0</i> 5.5)						6a and 6b
7.	Soils	(1705.6)						7a, 7b, and 7c
8.	Pile Foundations	(1705.7)						
9.	Pier Foundations	(1705.8)						
10	Special Inspections for Wind Resistance	(1705.10)						
11.	Sprayed Fire-Resistant Materials	(1705.13)						See architectural drawings
12.	Mastic and Intumescent Fire-Resistant Materials	(1705.14)						See architectural drawings
13.	Exterior Insulation and Finish Systems (EIFS)	(1705.15)						See architectural drawings
14.	Fire-Resistance Penetration and Joints	(1705.16)						See architectural drawings
15.	Smoke Control	(1705.17)						
16.	Special Cases	(1705.1.1)						16a

## SPECIAL INSPECTIONS WORK REQUIRED

Items marked with an asterisk " \* " are conventional testing not strictly a part of Section 1705 but are required for adequate quality assurance and can be provided by the contractor. All other work must be provided by the owner as indicated by the MN State Building Code.

- a.\* Provide mix design in accordance with ACI requirements.
- b. Test concrete at the time of pouring for slump, air-entrainment, and temperature in accordance with the specifications. c. Make and test concrete cylinders for representative strength in accordance with the
- d. Provide periodic visual inspection of reinforcing:
  - Visual inspection of all pad footings prior to pour. II. Visual inspection of 25% of continuous strip footings prior to pour.
- III. Visual inspection of 50% of poured foundation wall reinforcing prior to pour. IV. Visual inspection of 50% of slab on grade and topping over metal deck prior to pour.

# 5. Masonry

- a. Design of masonry based on net area compressive strength of masonry = 2000 psi. Inspections may be performed in accordance with Table 1.19.2 in ACI 530-11.
- b. Provide letter of certification from the manufacturer of concrete masonry units and suppliers of mortar and grout, to assure compliance with the compressive strengths
- c. Inspection of masonry core grouting I inspection prior to each grouting procedure.
  - Reinforcing size and spacing.
- Grout pour height and cleanouts. III. Hot weather or cold weather procedures.

# 6. Wood Assemblies

- a. Provide verification of Quality Control/Quality Assurance Program regarding
- fabrication process. b. Visually inspect framing layout and connection details.

- a.\* Verify footing excavation for suitability for planned footing. b.\* Verify material used for compacted backfill.
- c.\* Test compacted backfill for specified compaction.

# Special Cases

a. Post-installed anchors. Inspection requirements based on manufacturer's requirements, as described in the ICC Evaluation Service Report (ICC-ESR).

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710 South 2nd Street, 8th Floor

Nattson Macdonald Young structural engineers

Bassett Creek Business Center 901 North 3rd Street, Sulte 100 Minneapolis, MN 55401 612-827-7825 voice 612-827-0805 fax

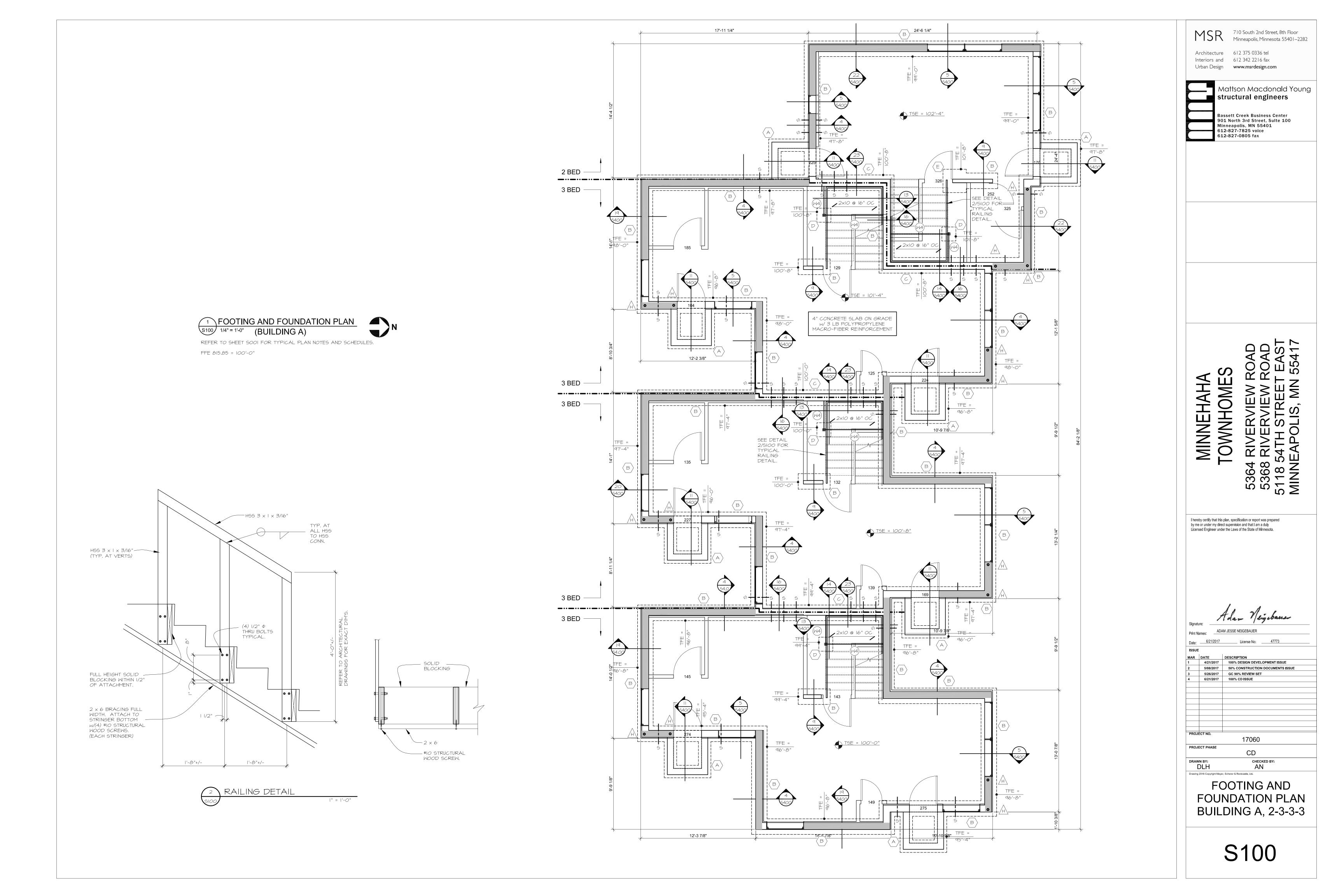
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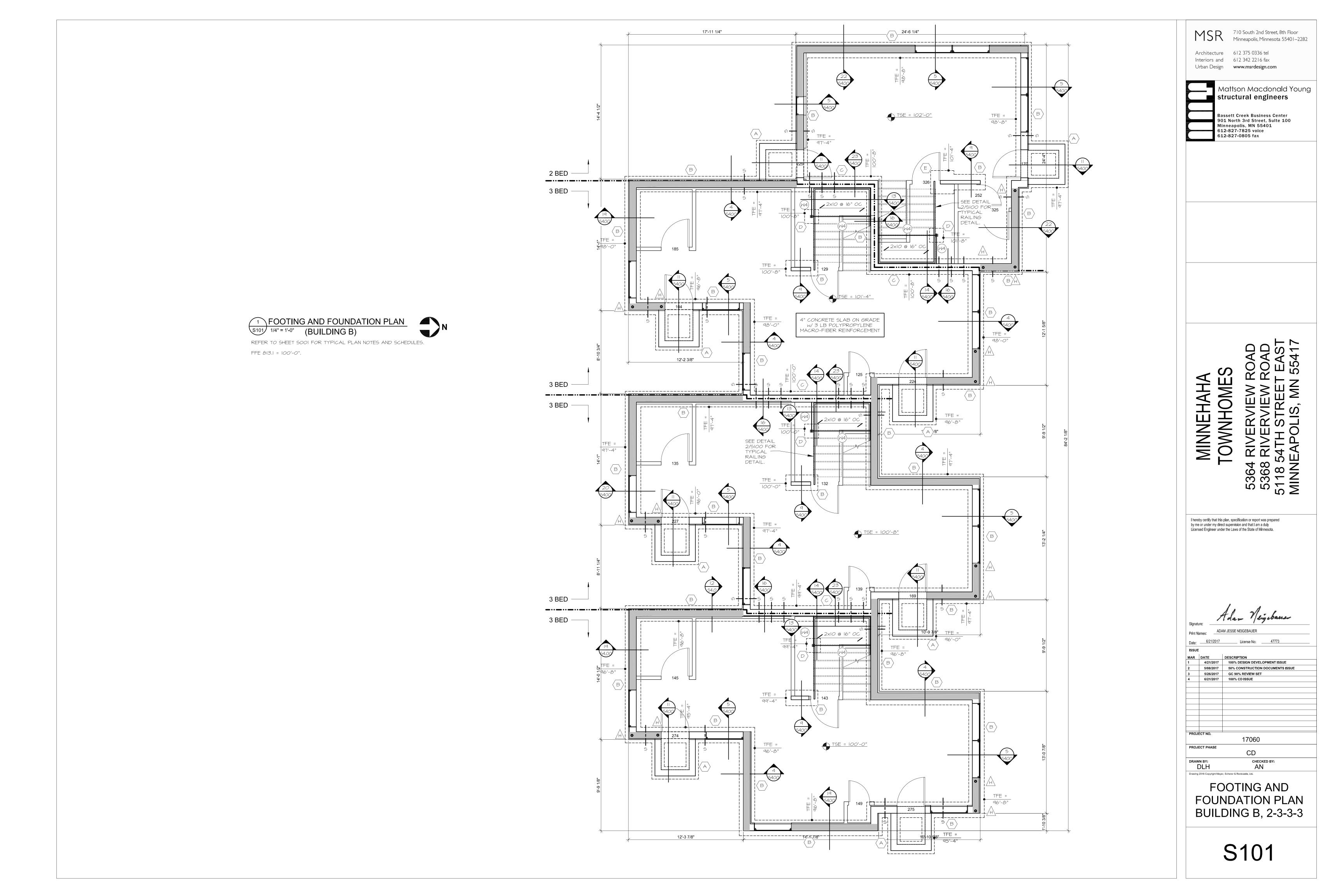
hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly

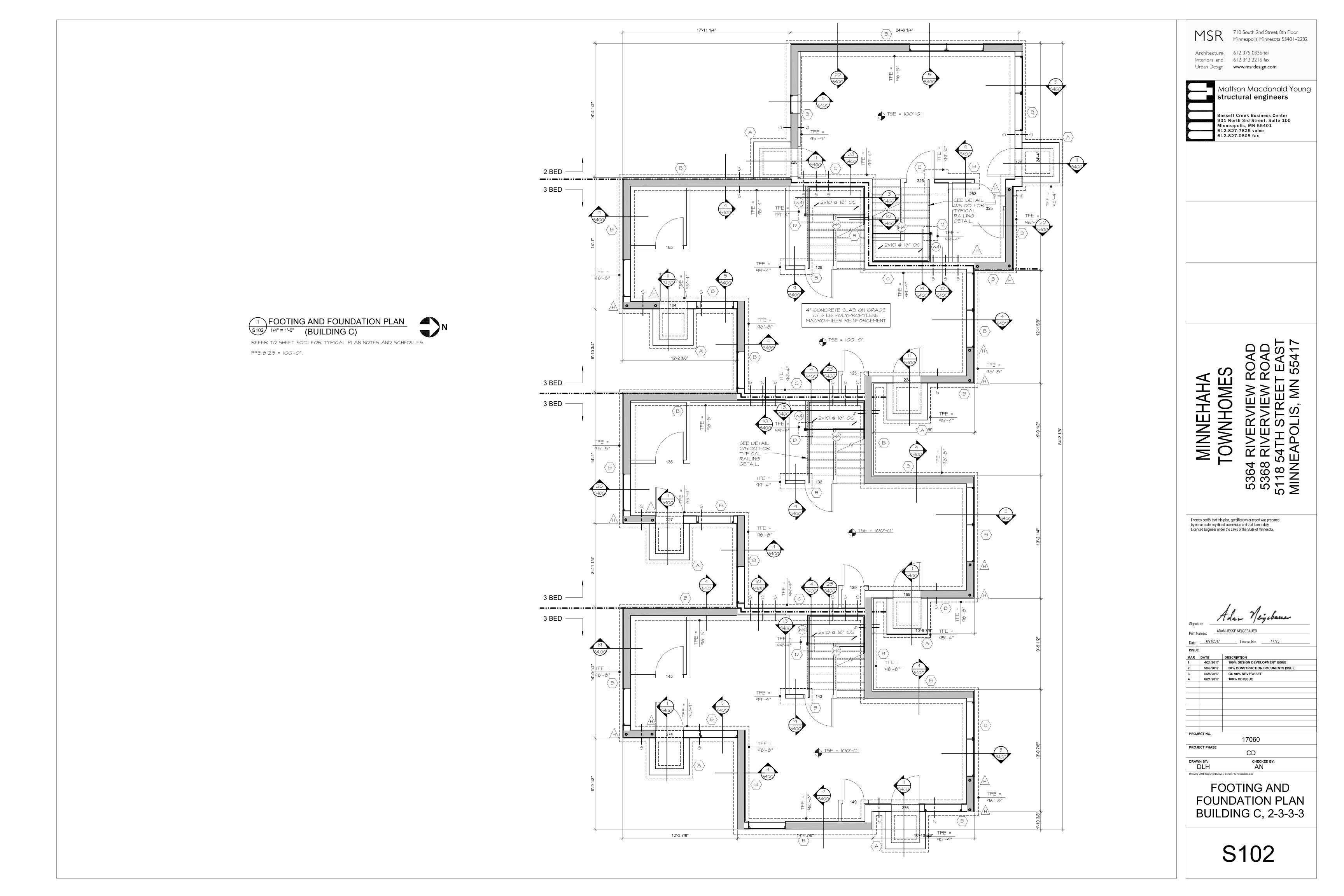
Licensed Engineer under the Laws of the State of Minnesota.

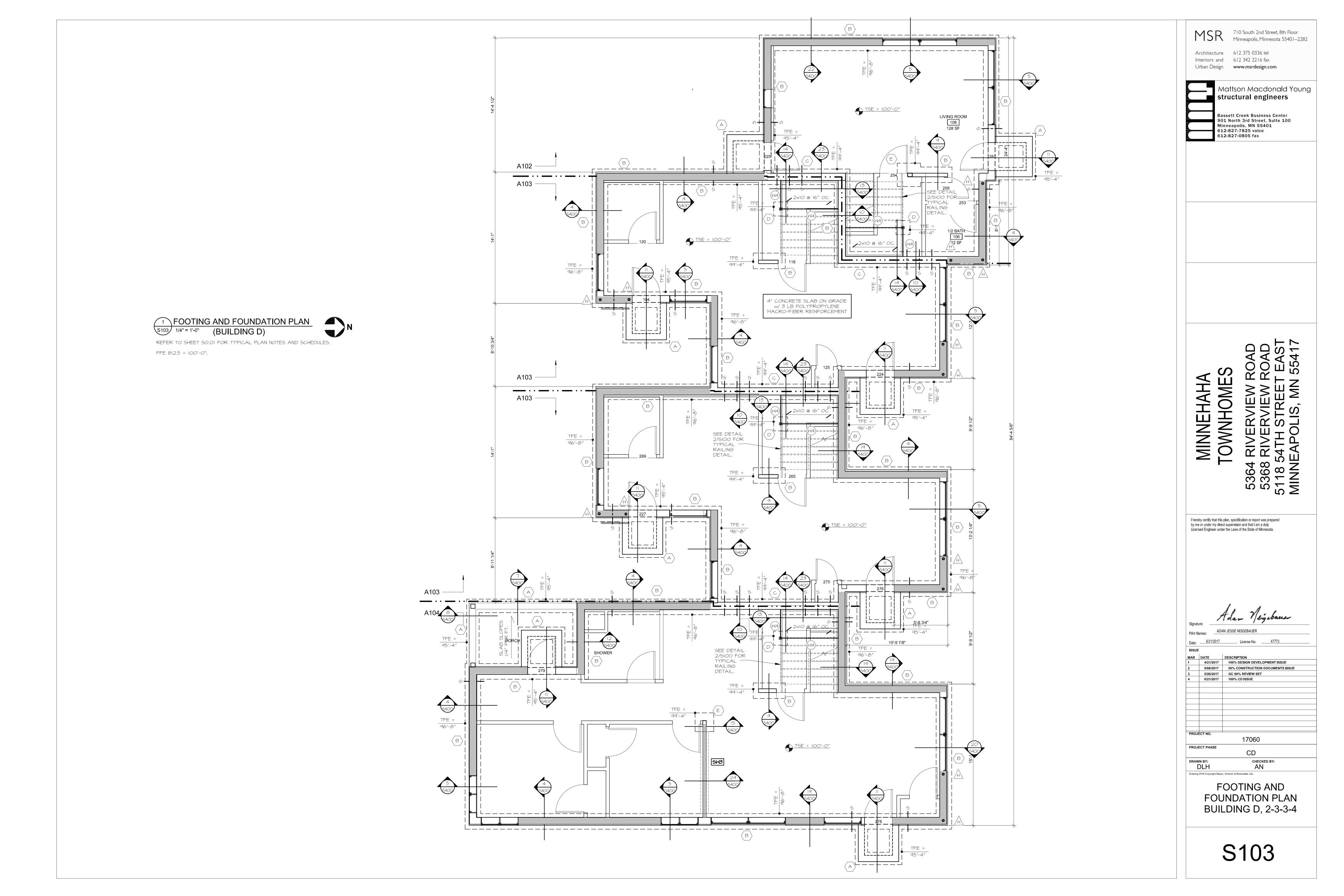
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Date:	e:6/21/2017 License No:47773						
ISSUE							
MAR	DATE	DESCRIPTION					
1	4/21/2017	100% DESIGN DEVELOPMENT ISSUE					
2	5/08/2017	50% CONSTRUCTION DOCUMENTS ISSUE					
3	5/26/2017	GC 90% REVIEW SET					
4	6/21/2017	100% CD ISSUE					
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		17000					
PROJI	ECT PHASE	CD					
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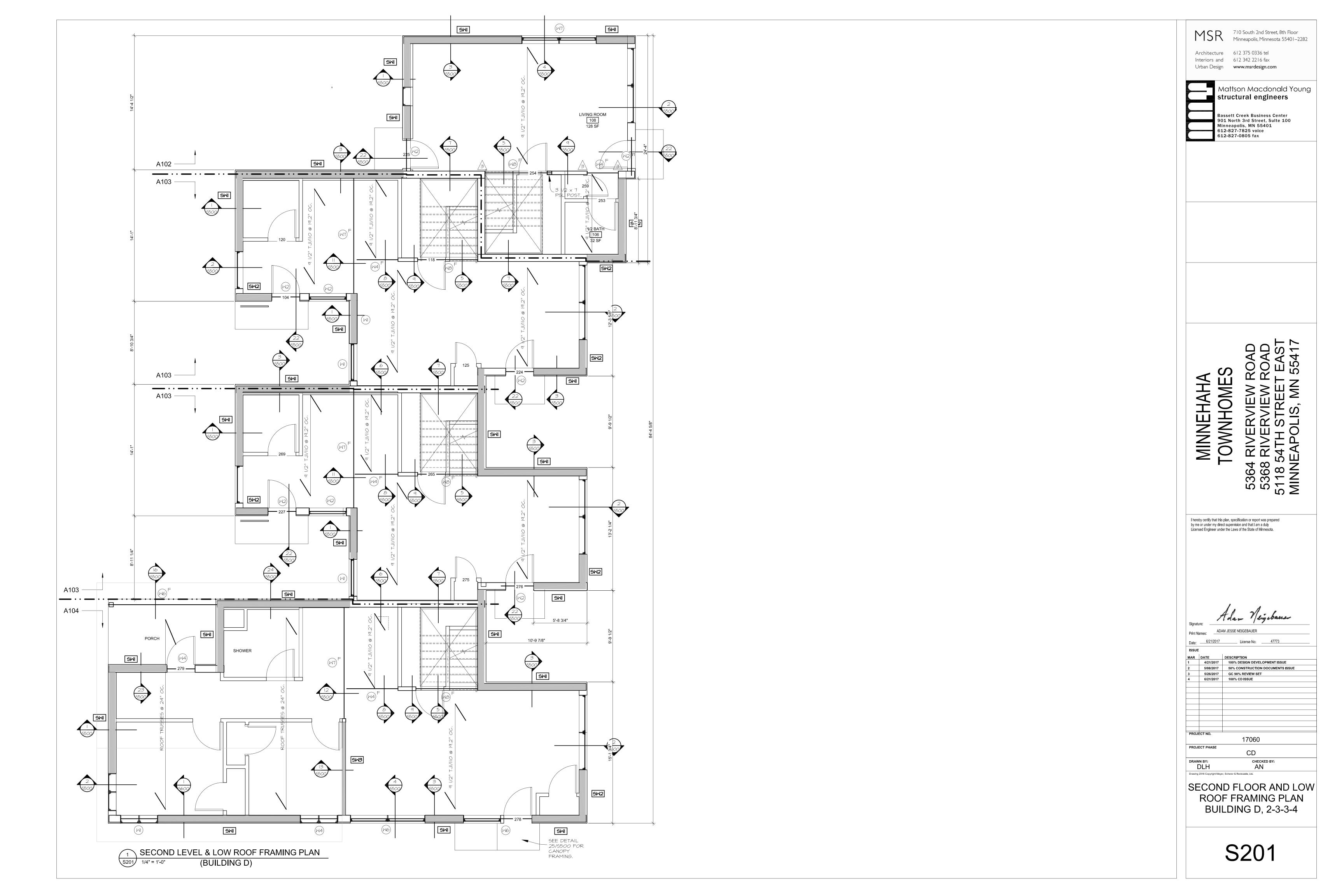
SCHEDULES, PLAN NOTES AND SPECIAL INSPECTIONS

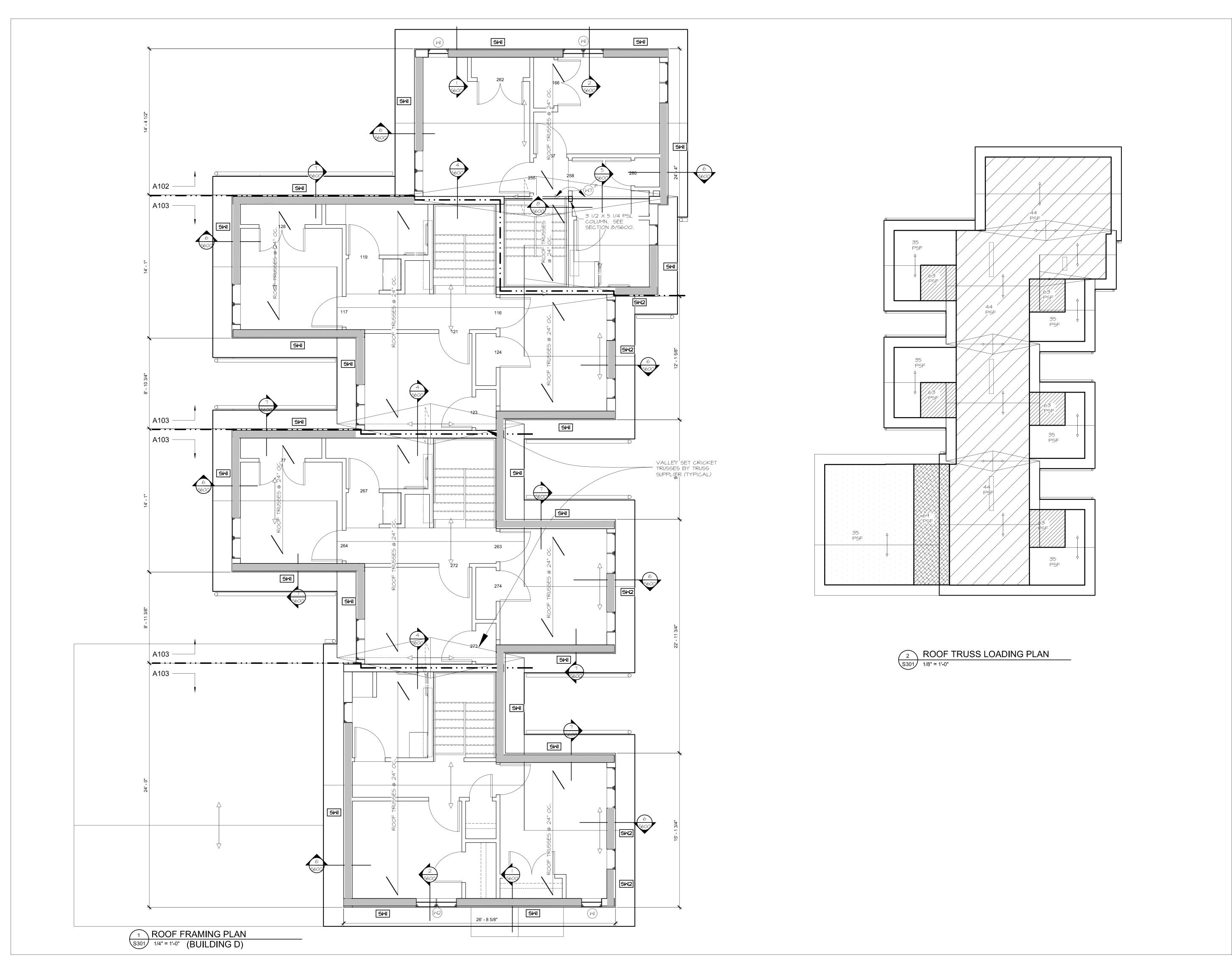








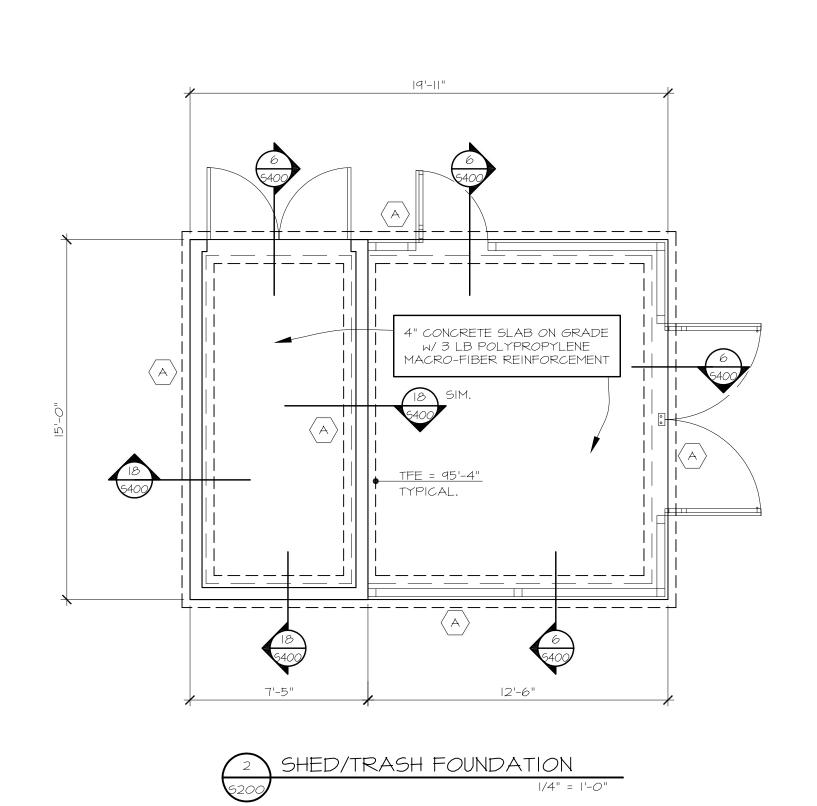


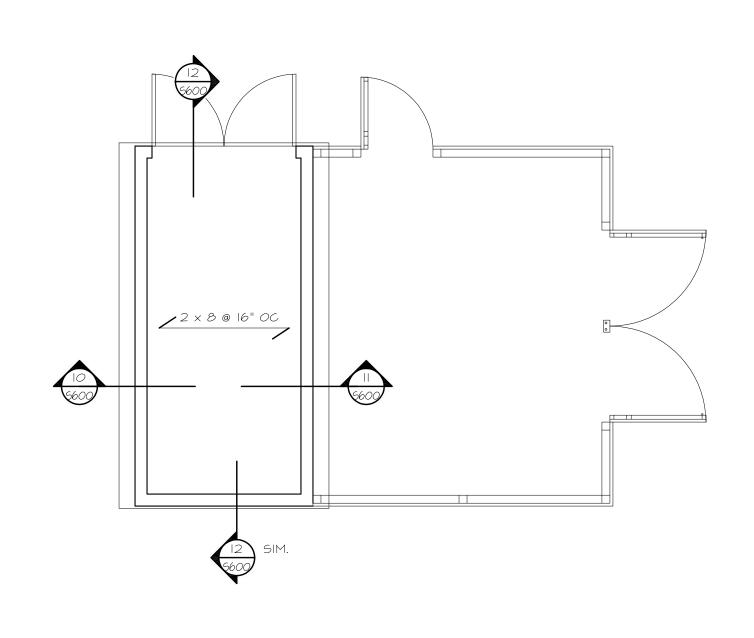


MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282 Architecture 612 375 0336 tel Interiors and 612 342 2216 fax Urban Design www.msrdesign.com Mattson Macdonald Young structural engineers Bassett Creek Business Center 901 North 3rd Street, Sulte 100 Minneapolis, MN 55401 612-827-7825 voice 612-827-0805 fax 5364 5368 5118 MINNI 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 Engineer under the Laws of the State of Minnesota. ADAM JESSE NEIGEBAUER Date: 6/21/2017 License No: 47773 
 MAR
 DATE
 DESCRIPTION

 1
 4/21/2017
 100% DESIGN DEVELOPMENT ISSUE
 5/26/2017 GC 90% REVIEW SET 6/21/2017 100% CD ISSUE PROJECT NO. 17060 PROJECT PHASE CD CHECKED BY: ROOF FRAMING PLAN AND ROOF TRUSS **LOADING PLAN** BUILDING D, 2-3-3-4

S301

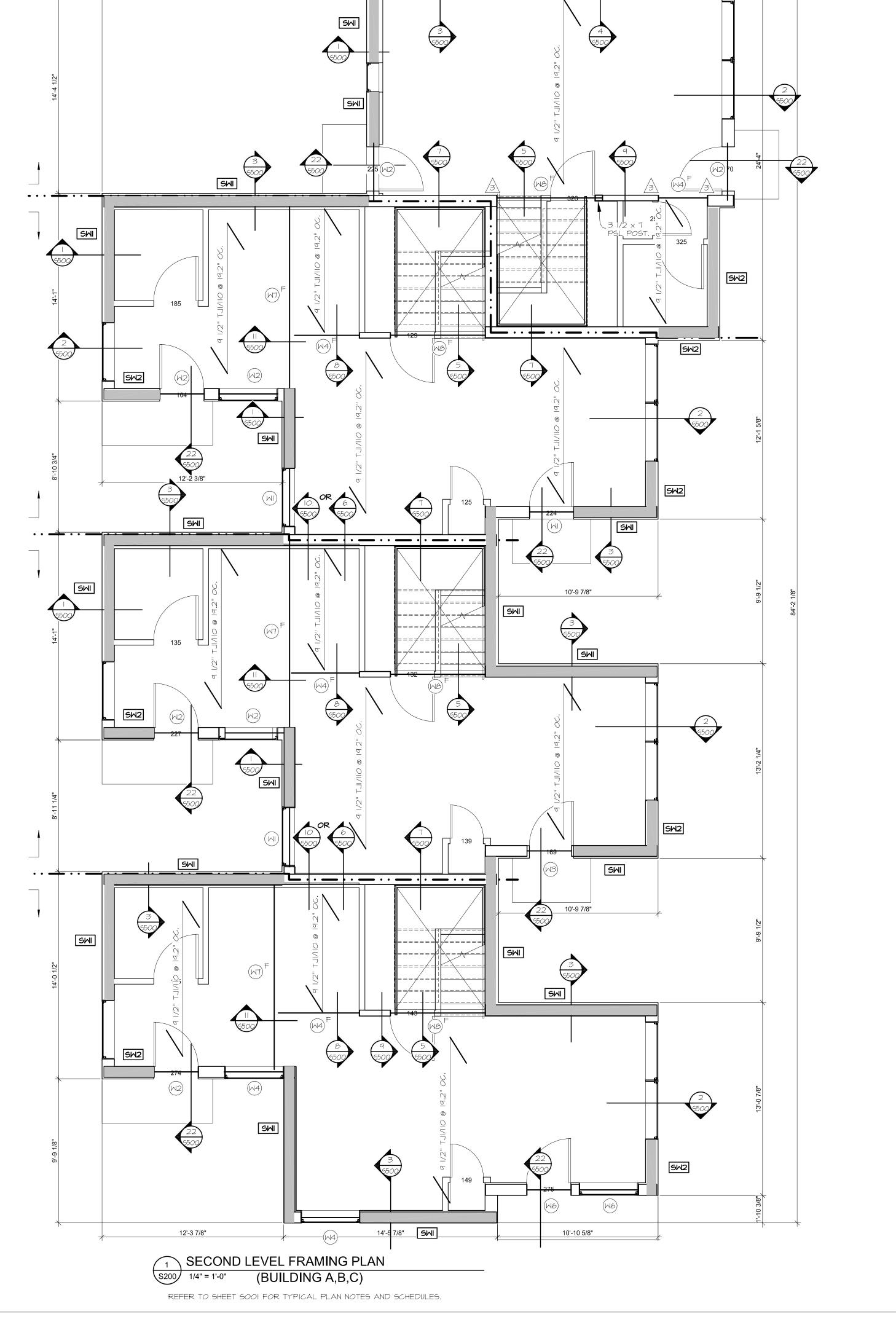




SHED ROOF FRAMING PLAN

REFER TO SHEET SOOI FOR TYPICAL PLAN NOTES AND SCHEDULES.

REFER TO SHEET SOOI FOR TYPICAL PLAN NOTES AND SCHEDULES.



24'-6 1/4"

SMI

SMI

17'-11 1/4"

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Licensed Engineer under the Laws of the State of Minnesota. ADAM JESSE NEIGEBAUER Date: 6/21/2017 License No: 47773 MAR DATE DESCRIPTION 5/26/2017 GC 90% REVIEW SET 6/21/2017 100% CD ISSUE

PROJECT NO.

PROJECT PHASE

DRAWN BY:

17060

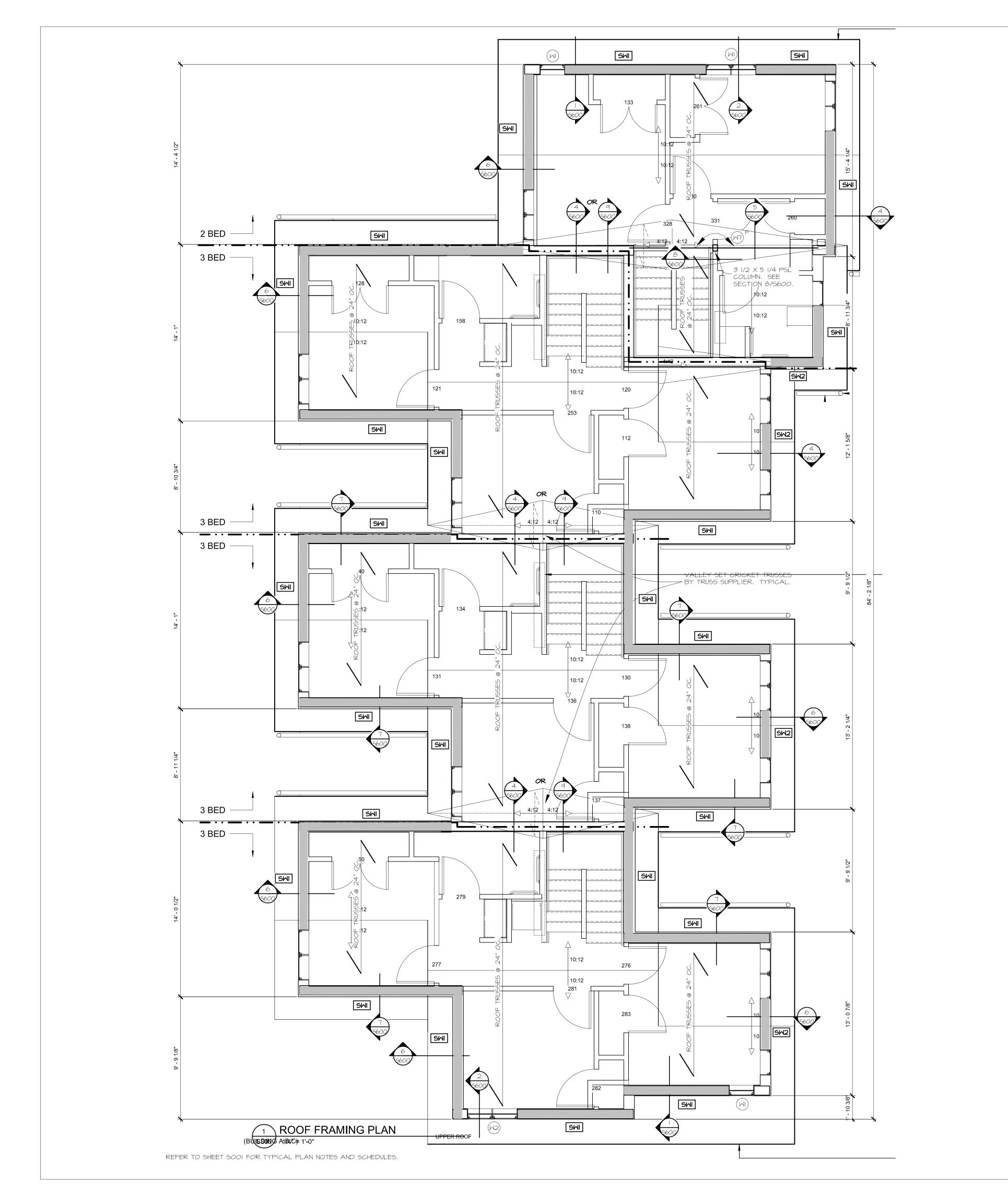
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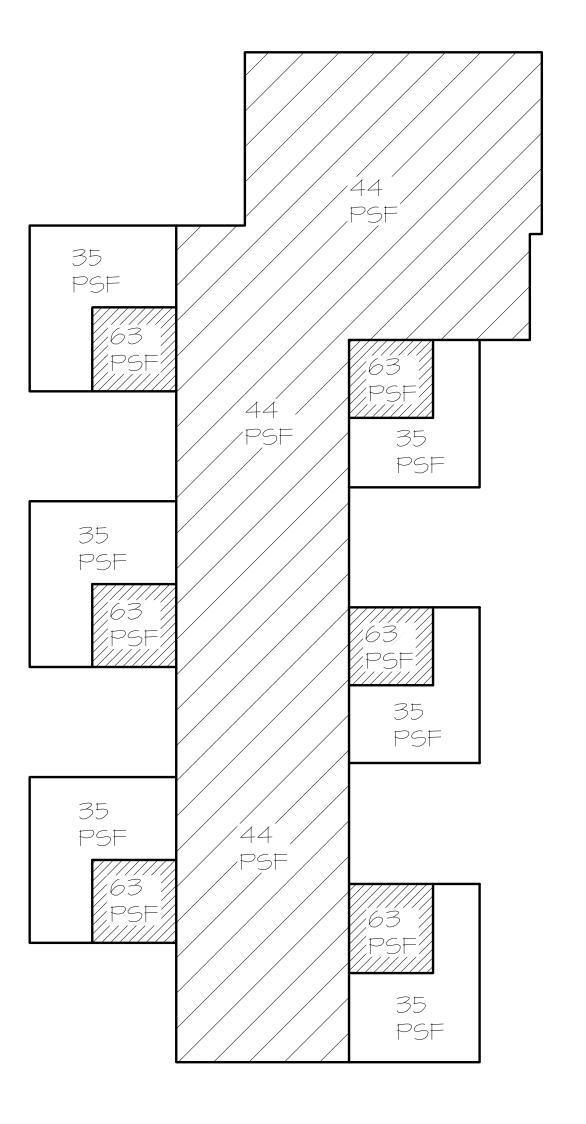
SECOND FLOOR

FRAMING PLAN
BUILDINGS A,B,C, - 2-3-3-3
SHED AND RECYCLING PLANS

S200

CHECKED BY:

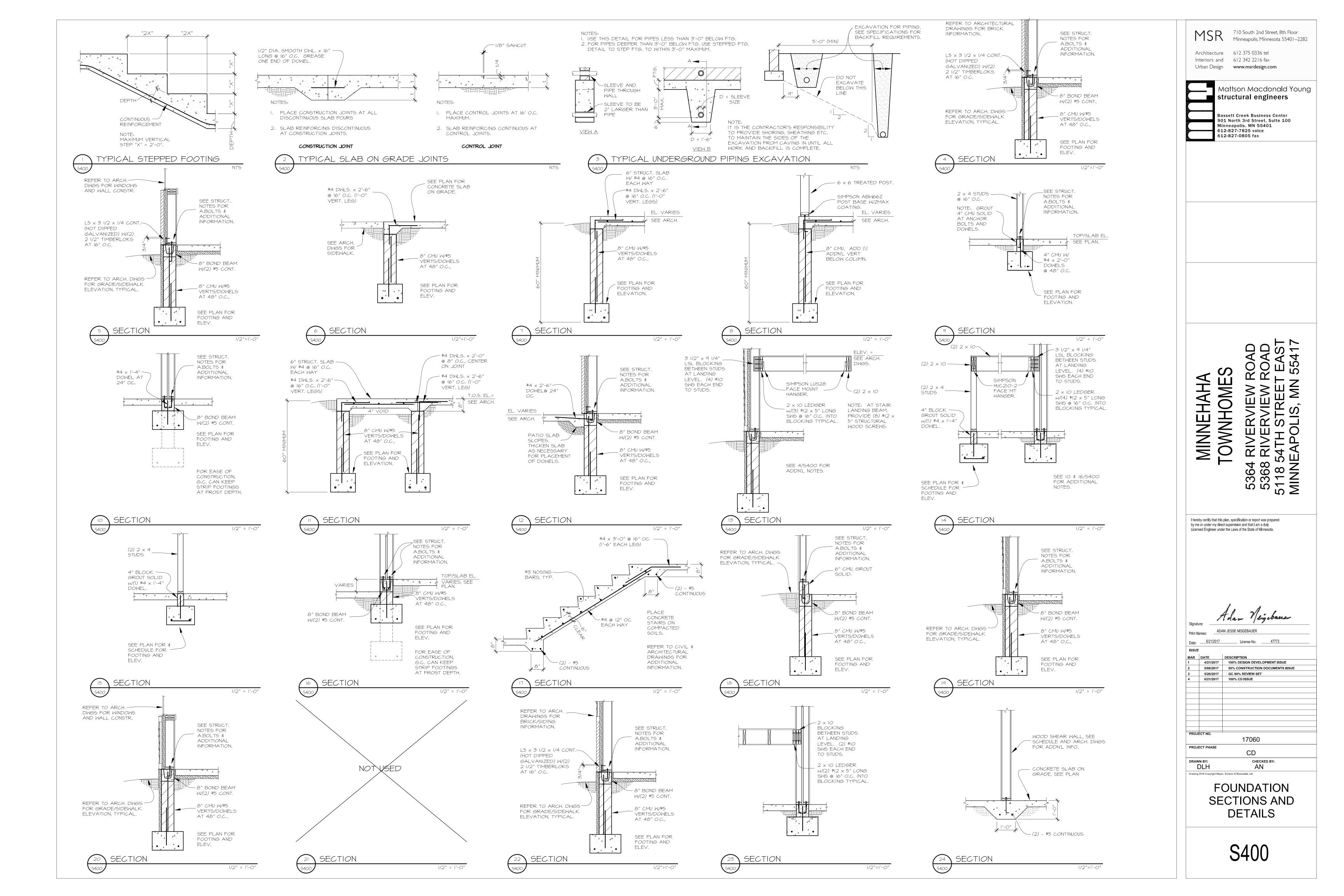


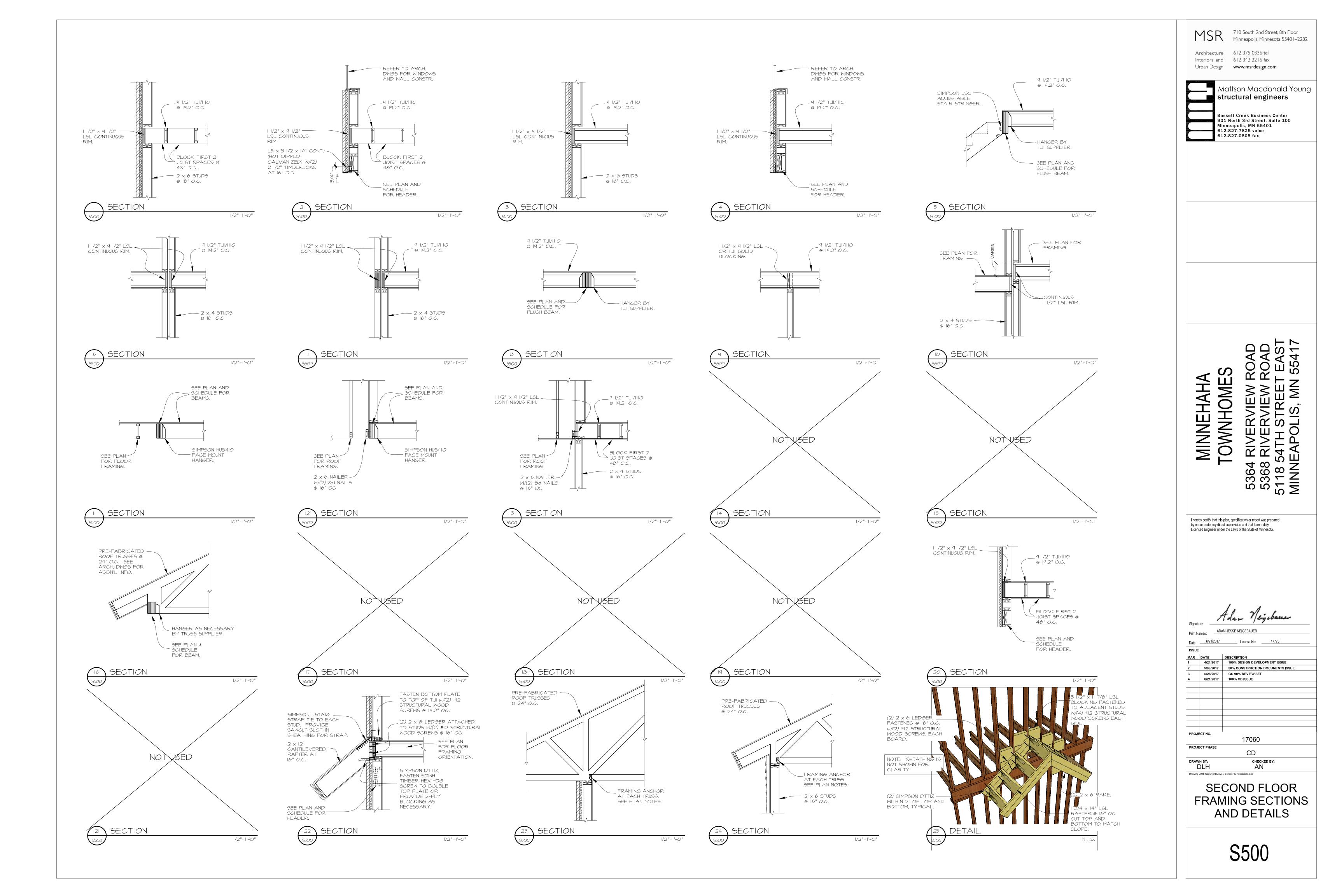


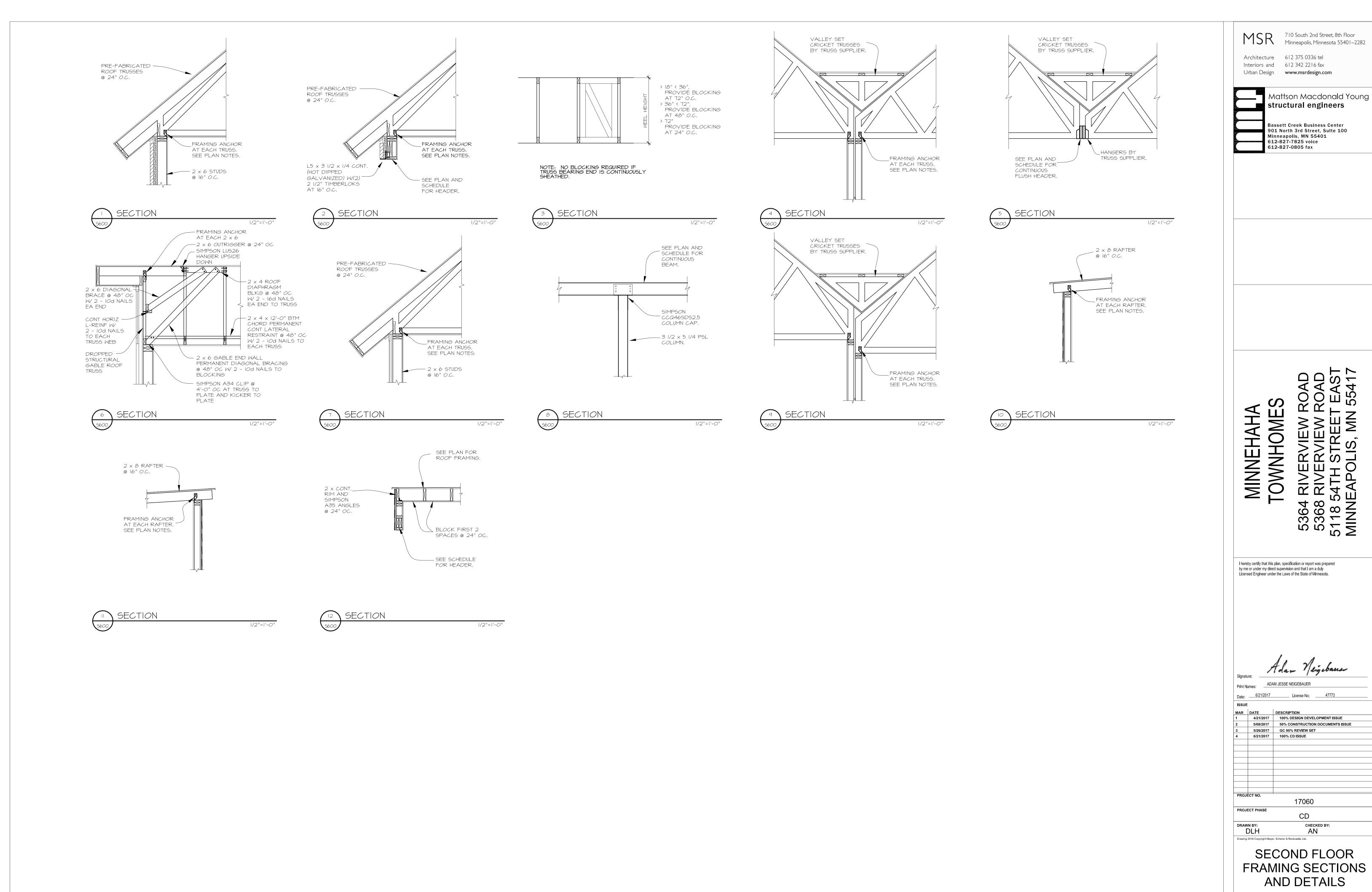
2 ROOF TRUSS LOADING PLAN
S300 1/8" = 1'-0"

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 DATE
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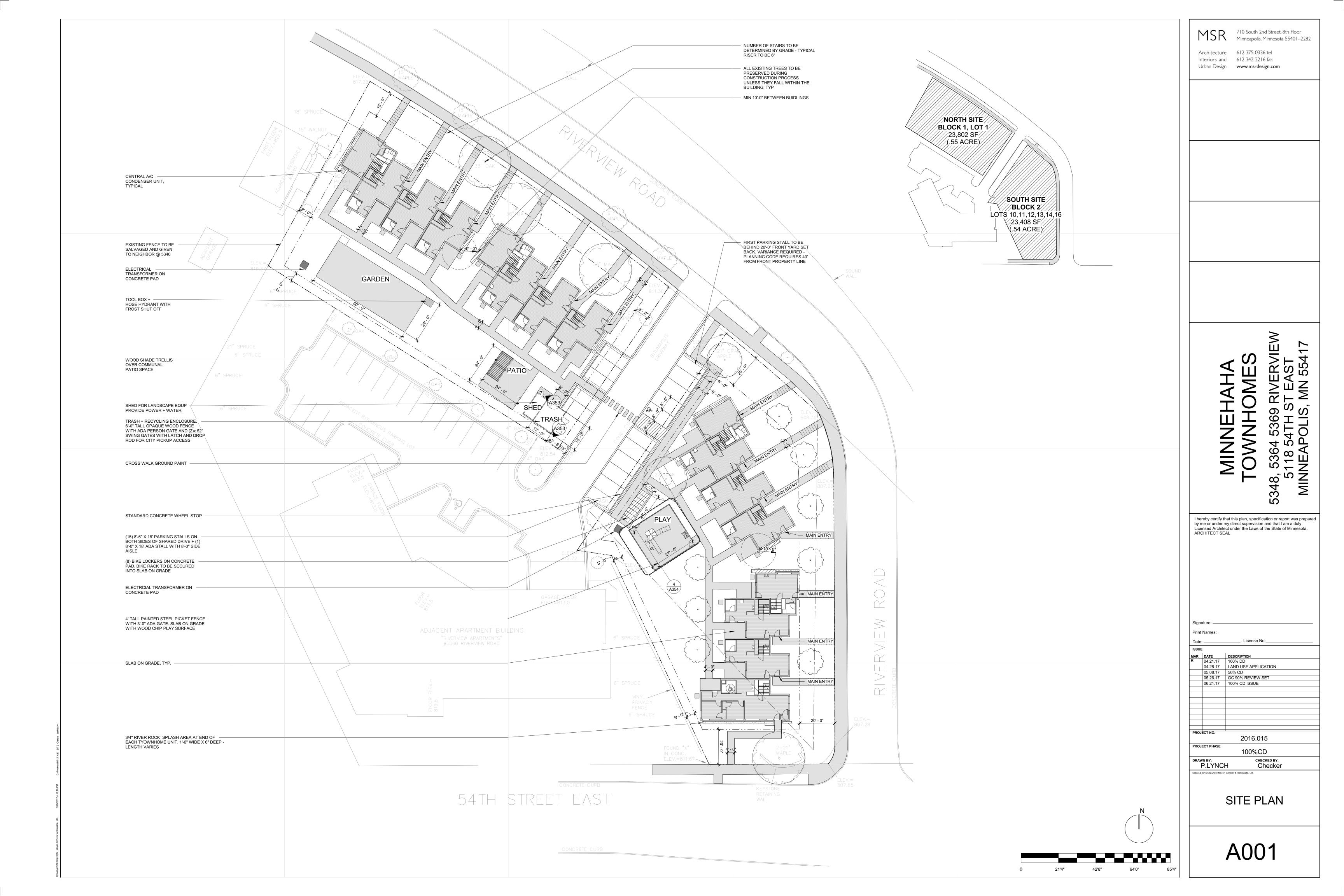
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 100% DESIGN
 5/26/2017 GC 90% REVIEW SET 6/21/2017 100% CD ISSUE PROJECT NO. 17060 PROJECT PHASE DRAWN BY: CHECKED BY: ROOF FRAMING PLAN AND ROOF TRUSS LOADING PLAN BUILDINGS A,B,C -2-3-3-3 S300

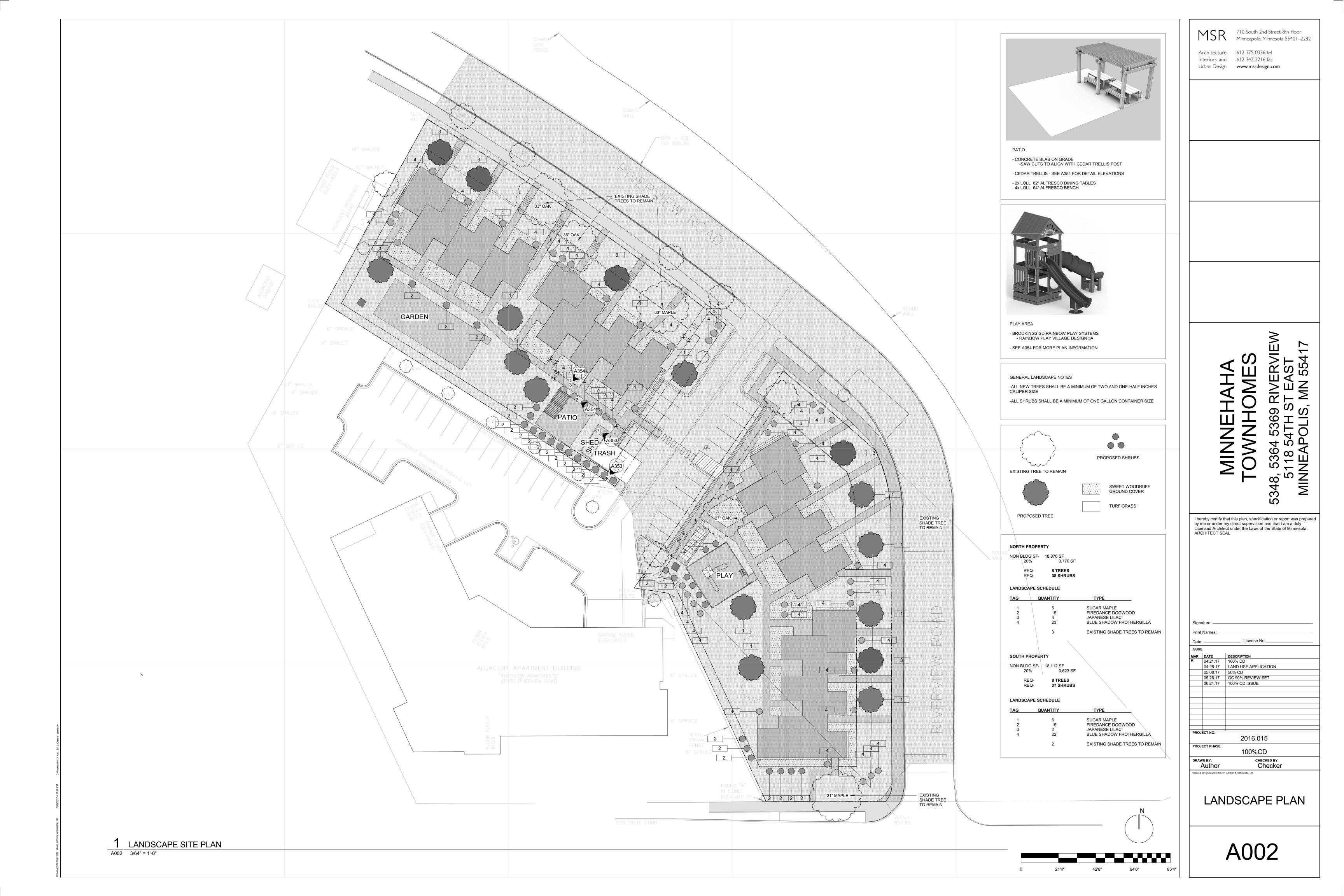


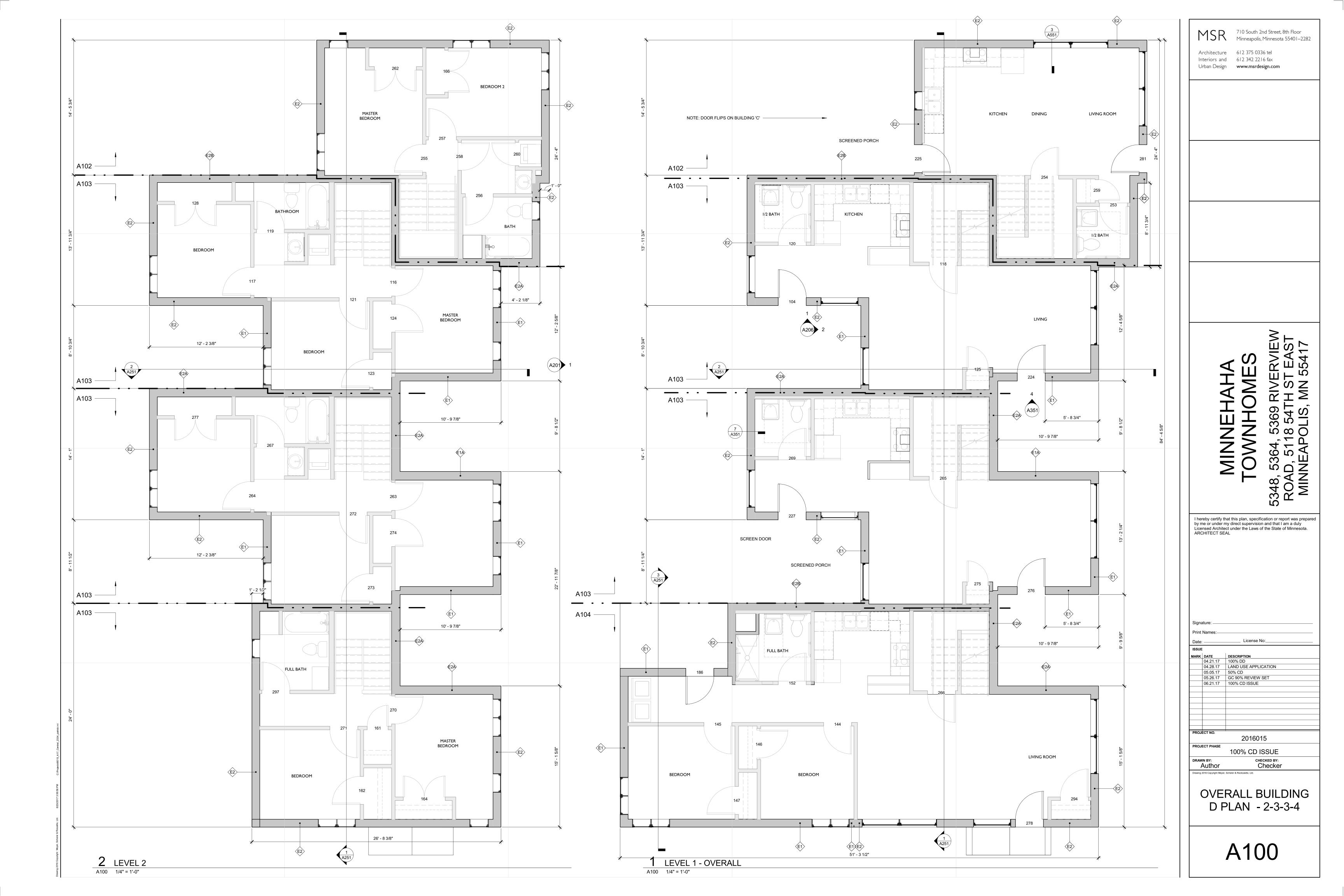




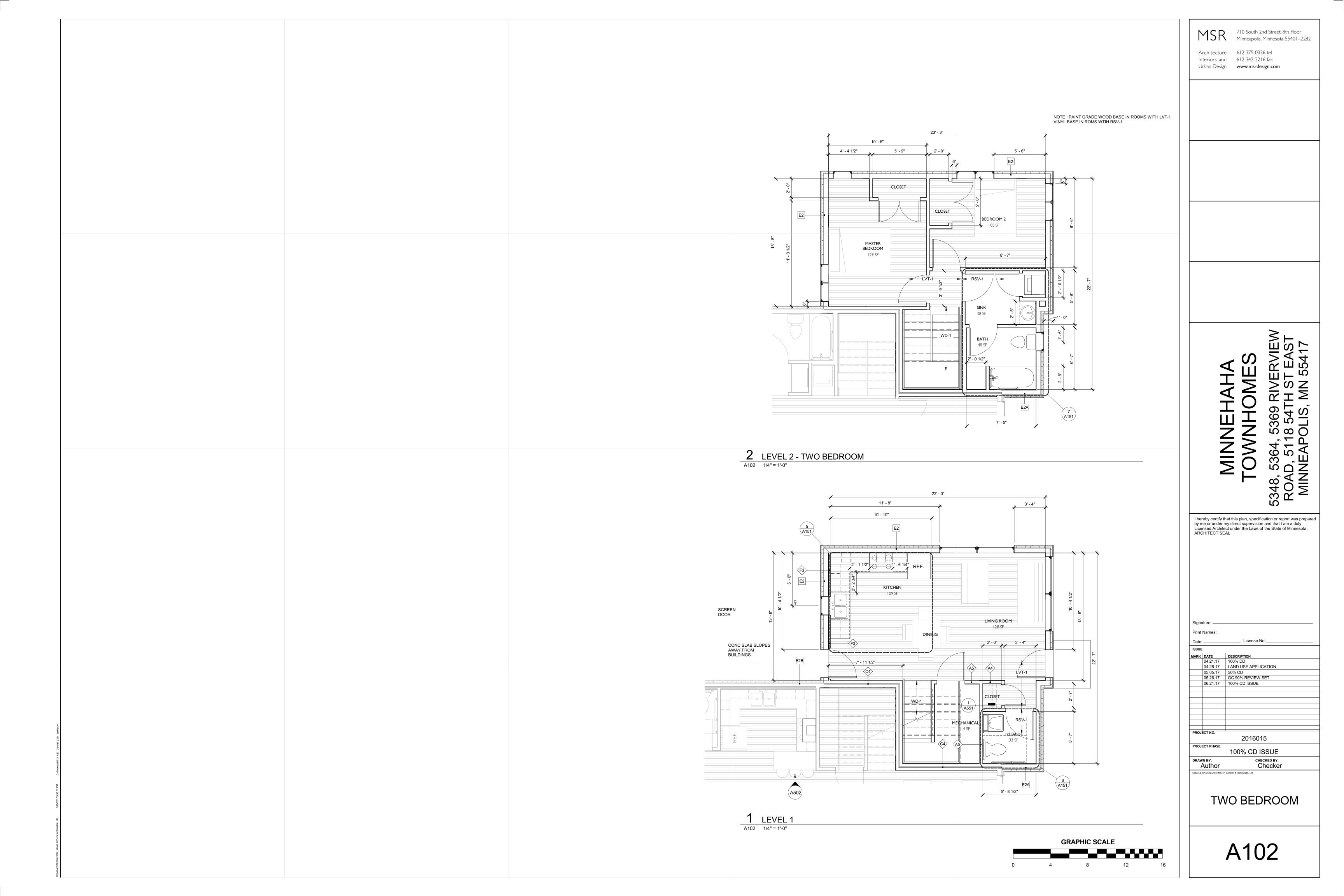
S600











NOTE : PAINT GRADE WOOD BASE IN ROOMS WITH LVT-1 VINYL BASE IN ROMS WTIH RSV-1

MASTER BEDROOM

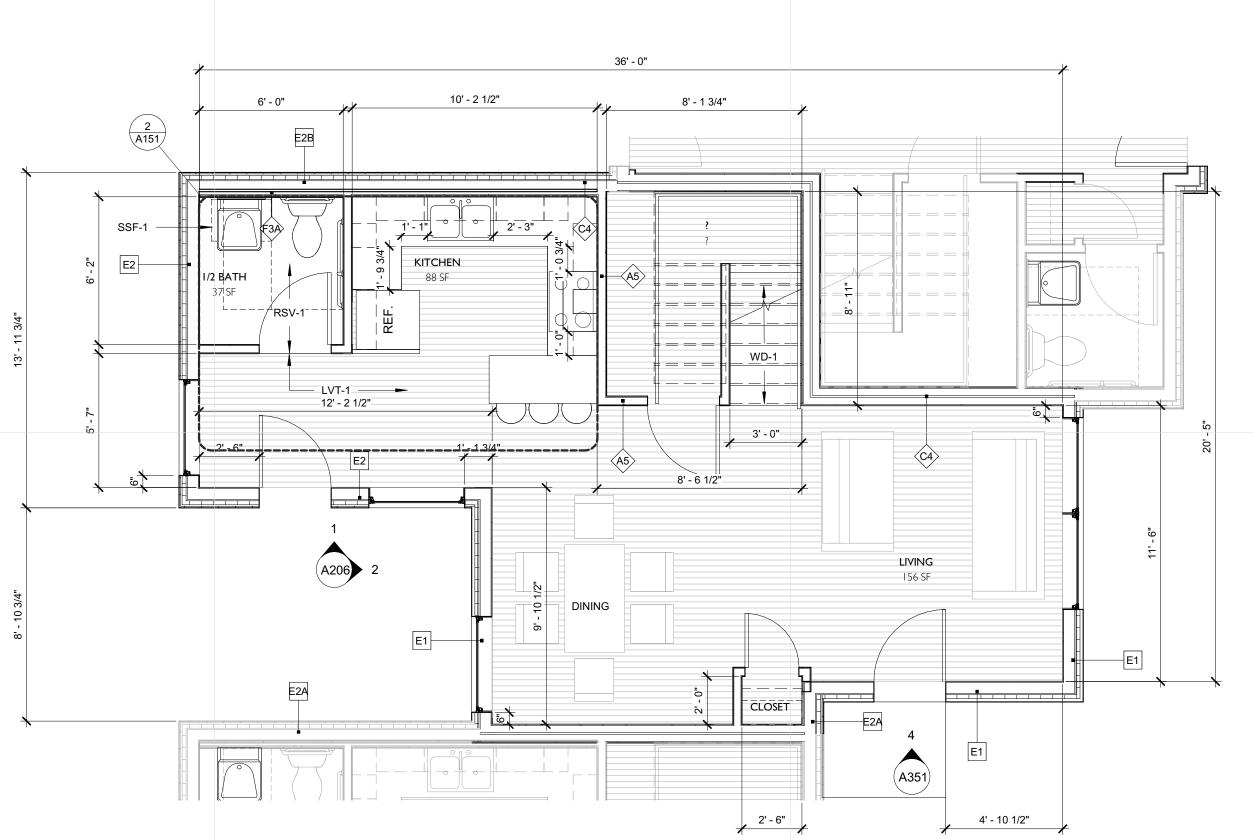
10' - 6"

E1

2 LEVEL 2 - THREE BEDROOM
A103 1/4" = 1'-0"

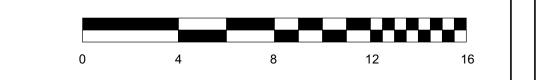
BEDROOM

10' - 0"



BEDROOM 100 SF

LEVEL 1 - THREE BEDROOM A103 1/4" = 1'-0"



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License No:\_ 
 MARK
 DATE
 DESCRIPTION

 04.21.17
 100% DD

 04.28.17
 LAND USE APPLICATION

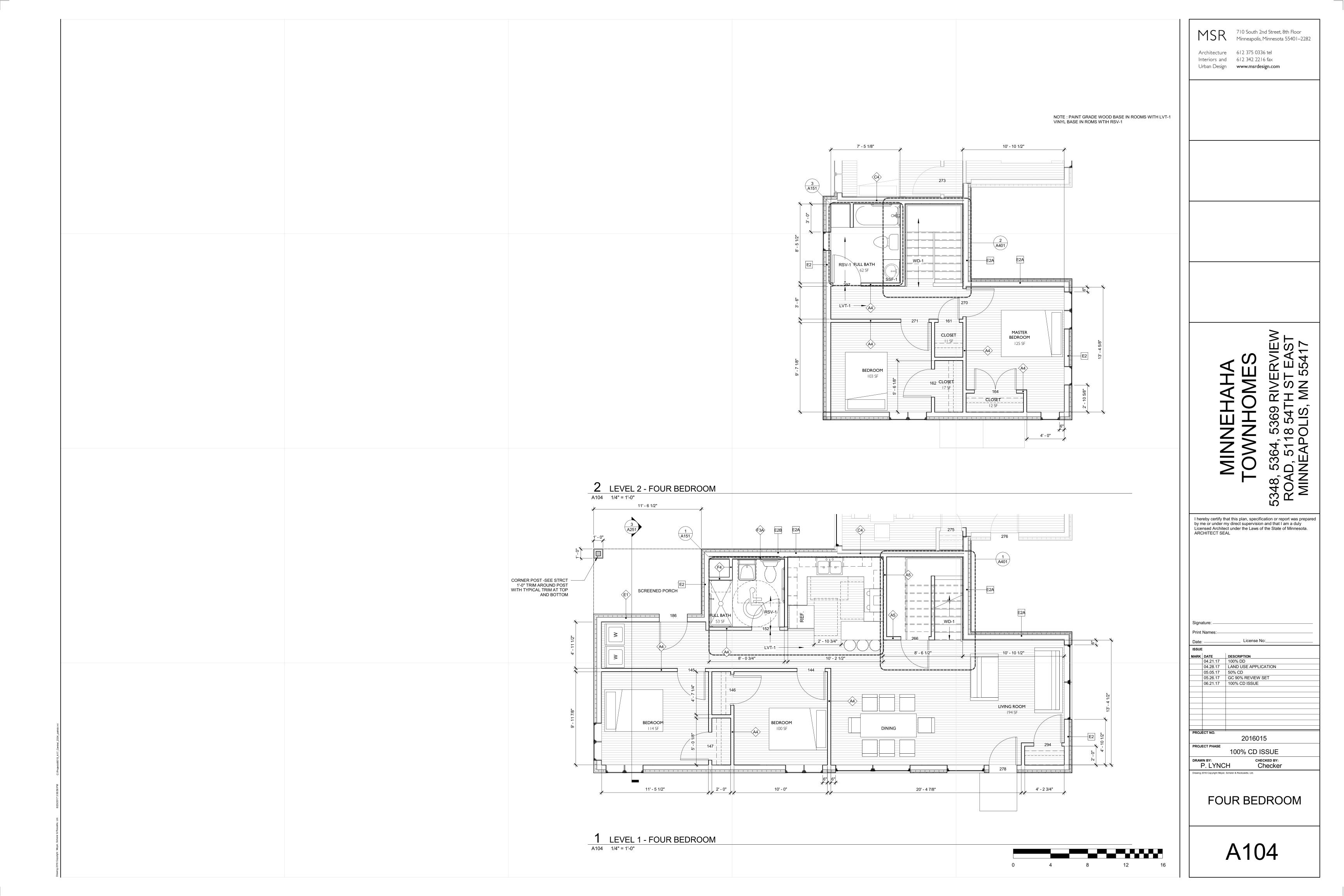
 05.05.17
 50% CD

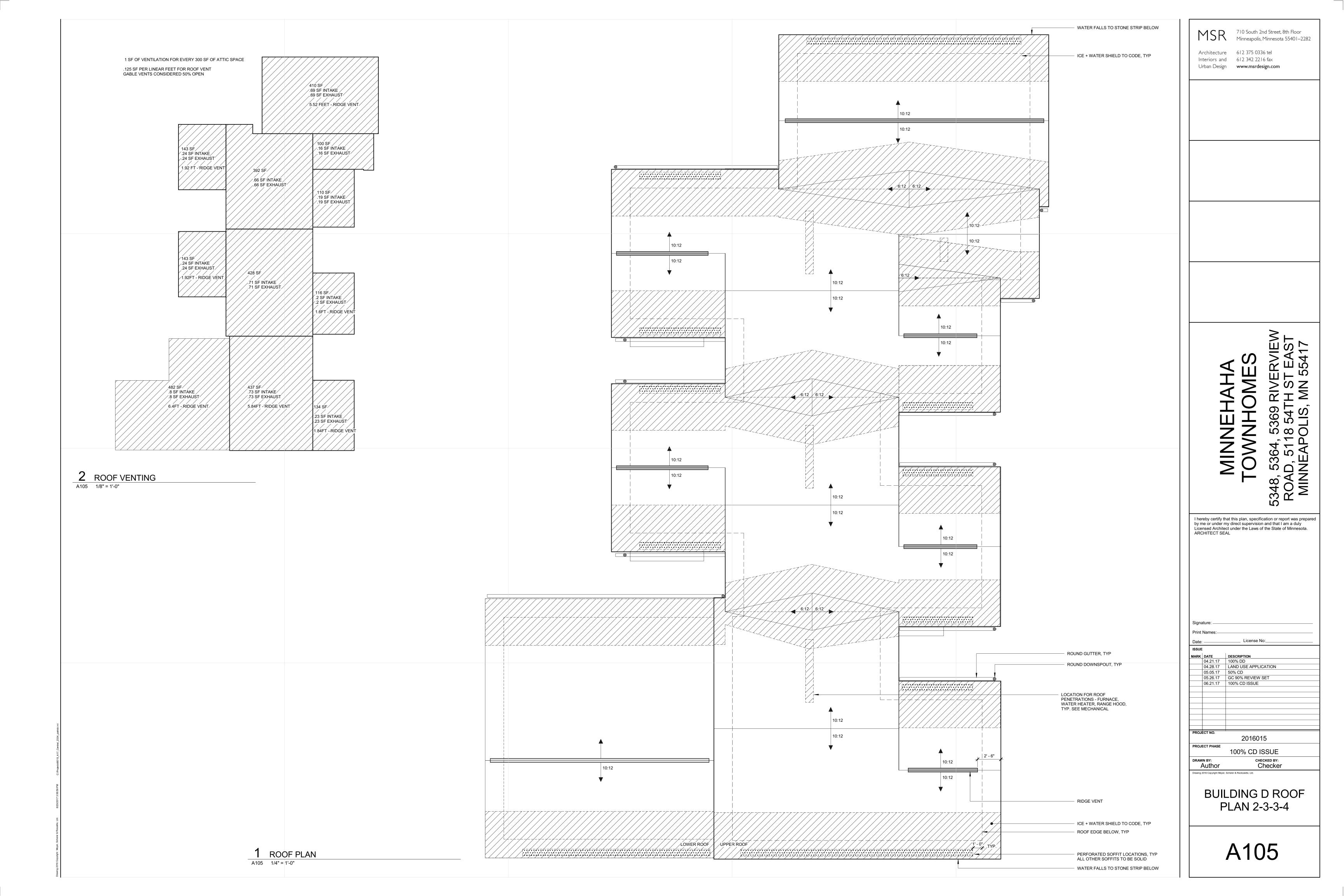
 05.26.17
 GC 90% REVIEW SET

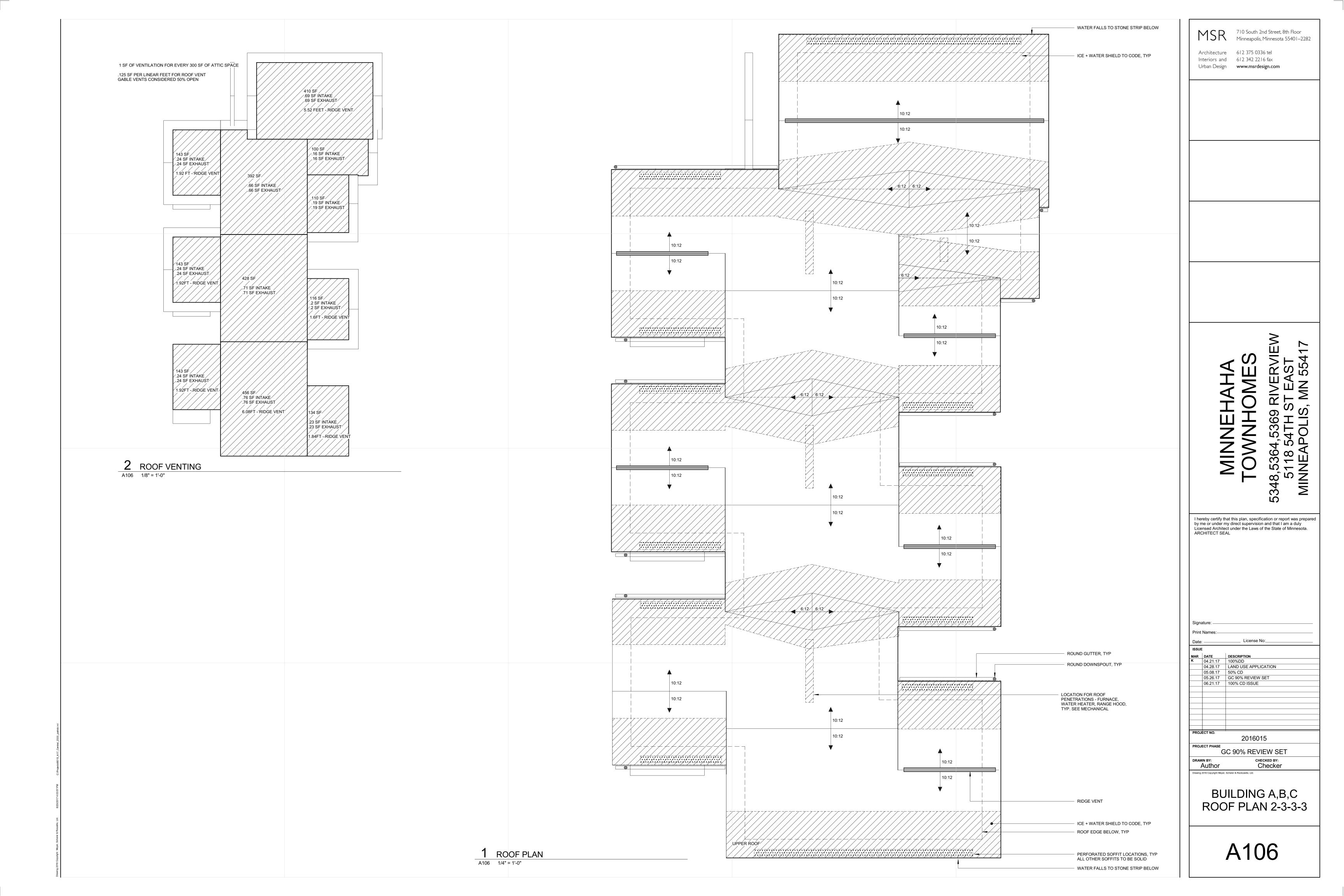
 06.21.17
 100% CD ISSUE
 PROJECT NO. 2016015 100% CD ISSUE CHECKED BY: Checker

THREE BEDROOM

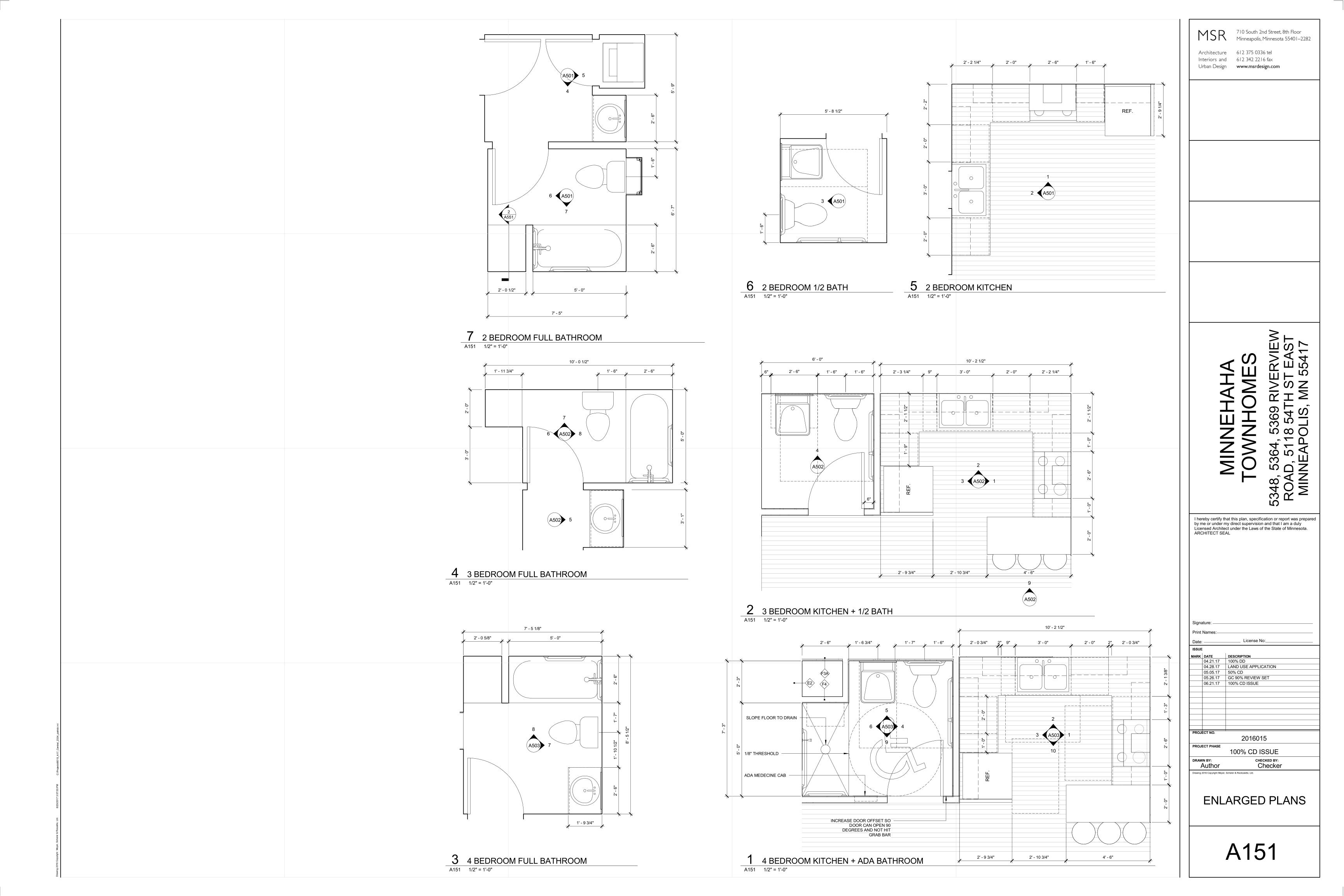
P.LYNCH













BUILDING EAST ELEVATION - FRONT

A201 1/4" = 1'-0"



1 BUILDING WEST ELEVATION - BACK
A201 1/4" = 1'-0"

0 4 8 12 16

MINNEHAHA

TOWNHOMES

5348, 5364, 5369 RIVERVIEW
ROAD, 5118 54TH ST EAST

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BUILDING D ELEVATIONS 2-3-3-4







BUILDING EAST ELEVATION - FRONT
A204 1/4" = 1'-0"



1 BUILDING WEST ELEVATION - BACK
A204 1/4" = 1'-0"

0 4 8 12 16

MINNEAPOLIS, MN 55417

MINNEAPOLIS, MN 55417

MINNEAPOLIS, MN 55417

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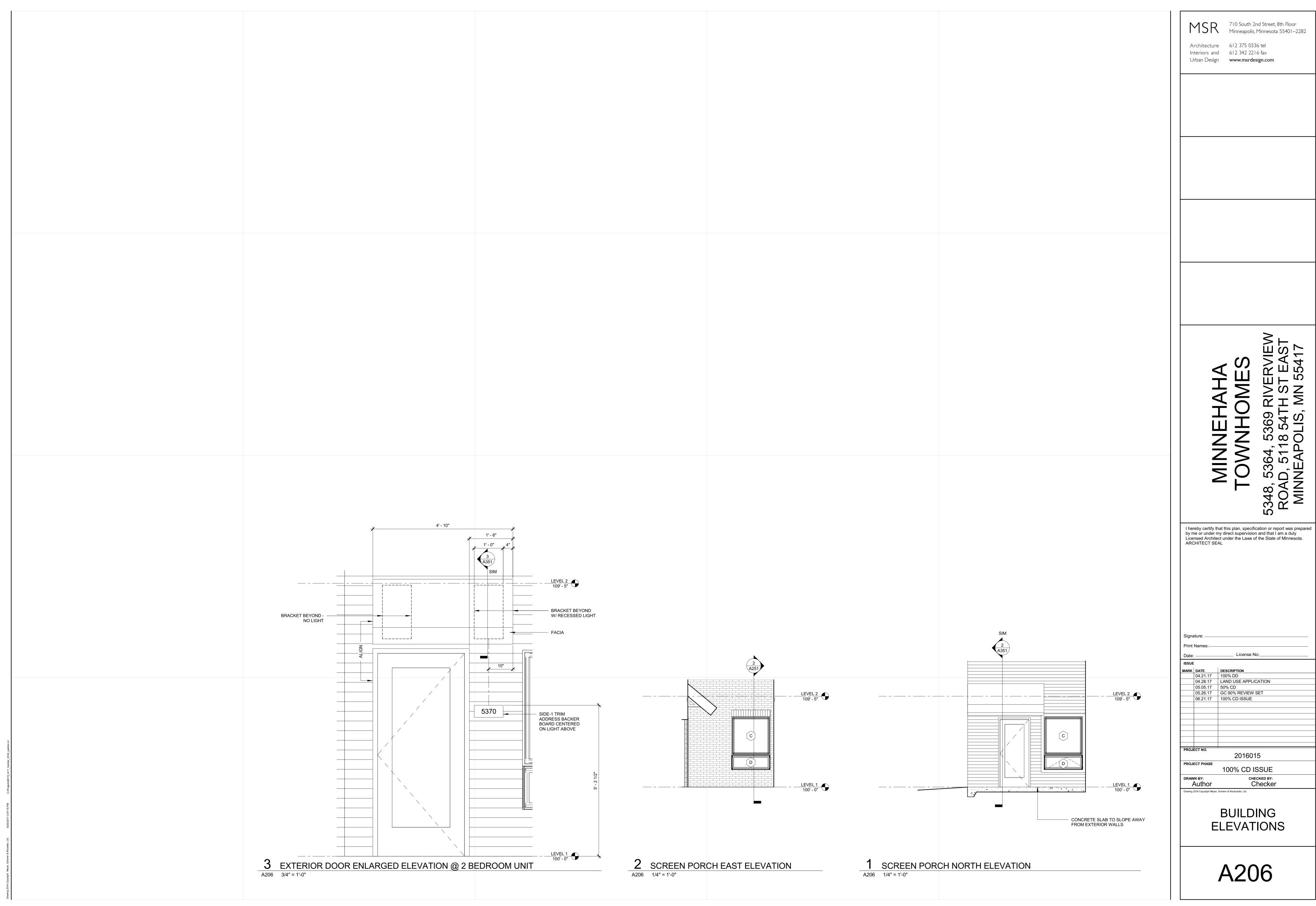
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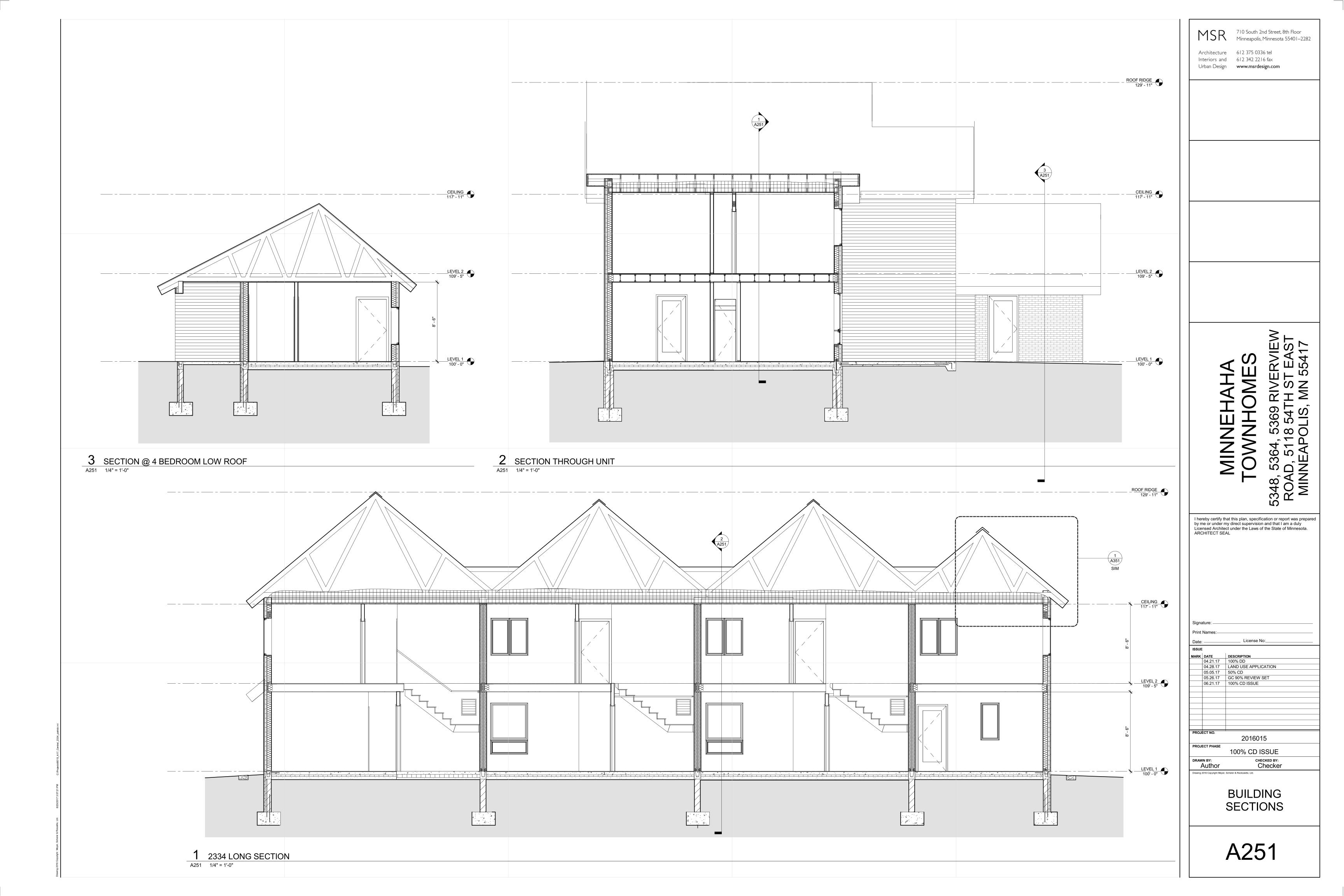
BUILDING A,B,C ELEVATIONS 2-3-3-3



BUILDING EAST ELEVATION

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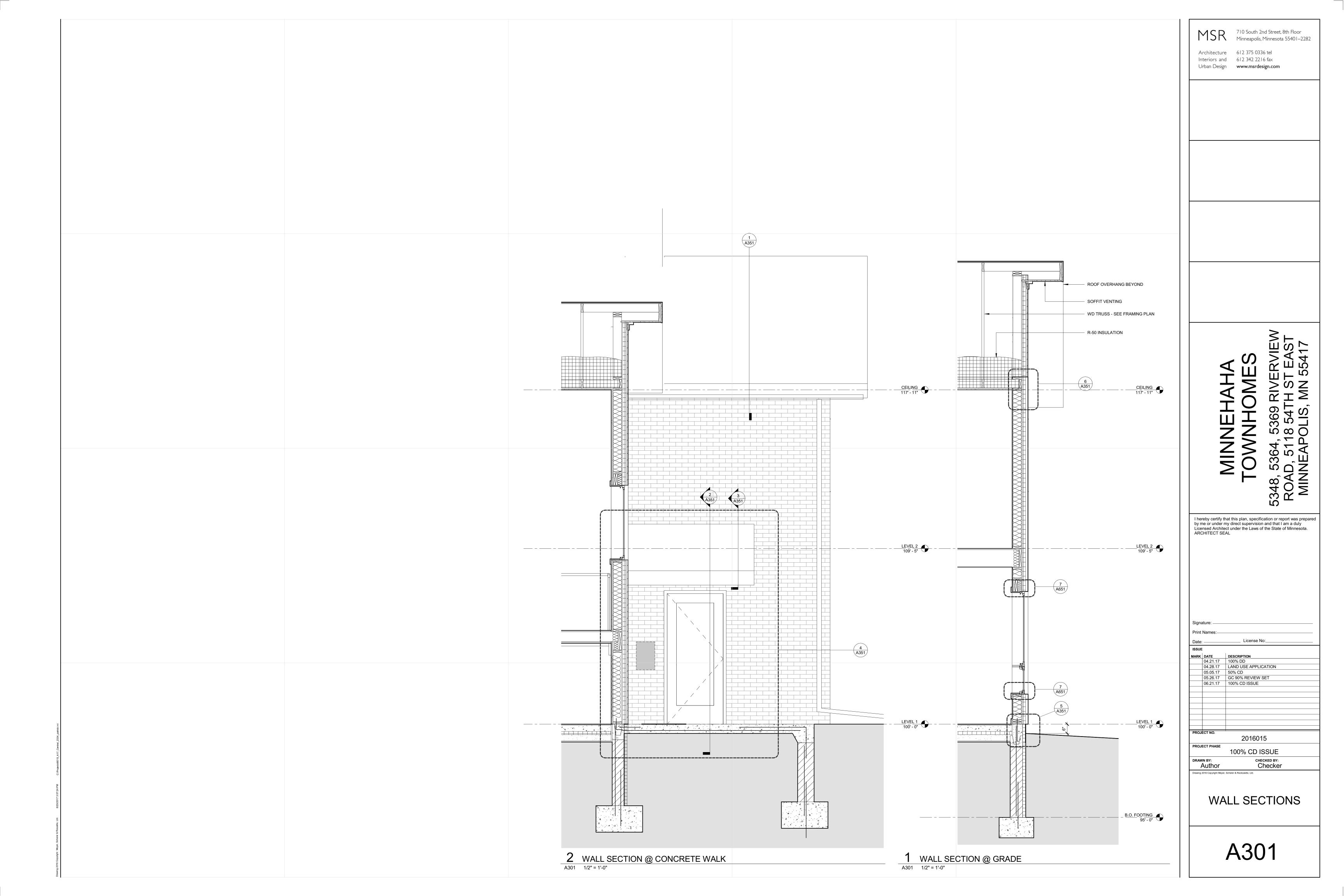
MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282 Architecture 612 375 0336 tel Interiors and 612 342 2216 fax Urban Design www.msrdesign.com MINNEHAHA TOWNHOMES I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Minnesota. ARCHITECT SEAL 04.28.17 LAND USE APPLICATION 05.08.17 50% CD 05.26.17 GC 90% CHECK SET PROJECT NO.

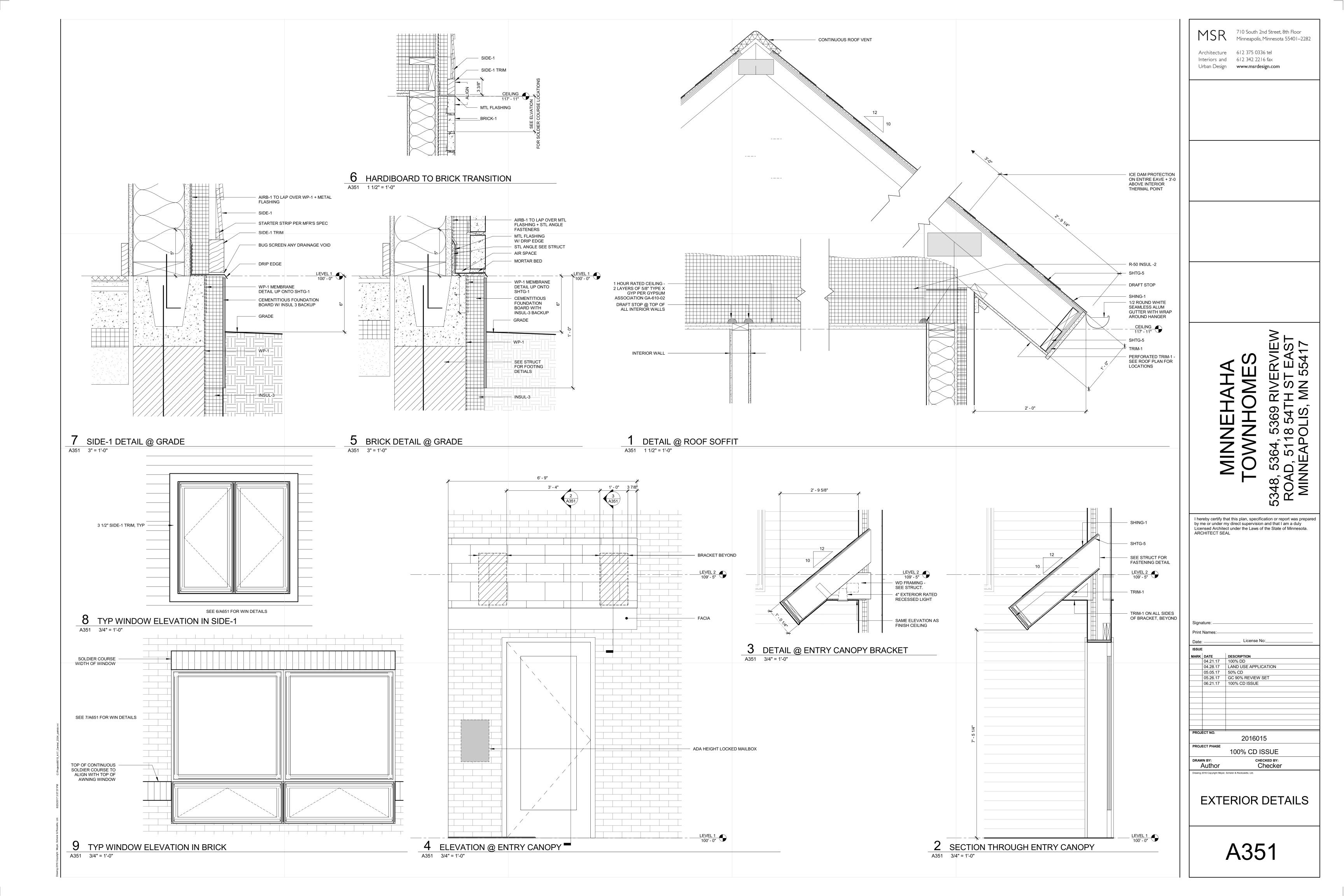
BUILDING A, B BUILDING SECTION

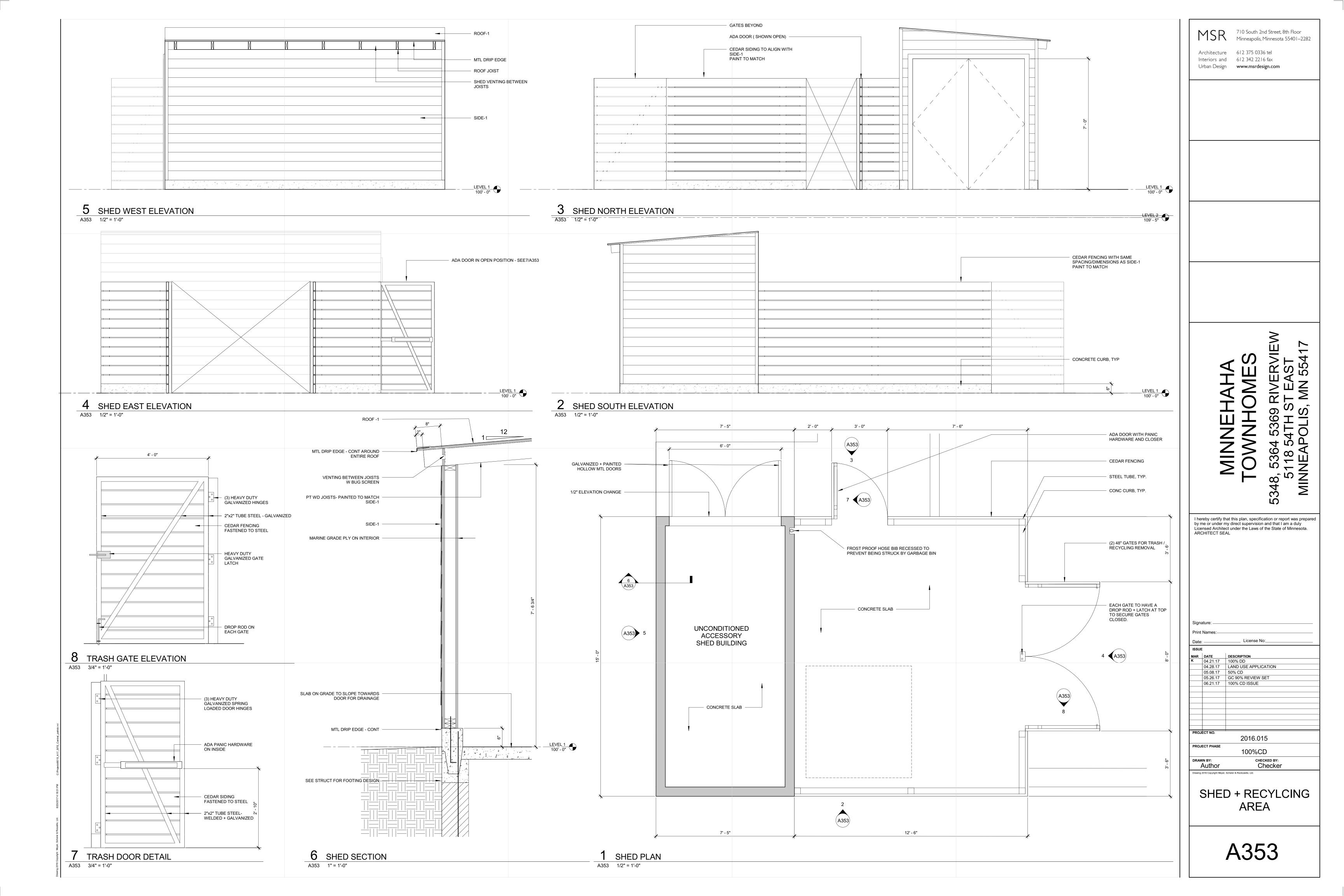
2016015

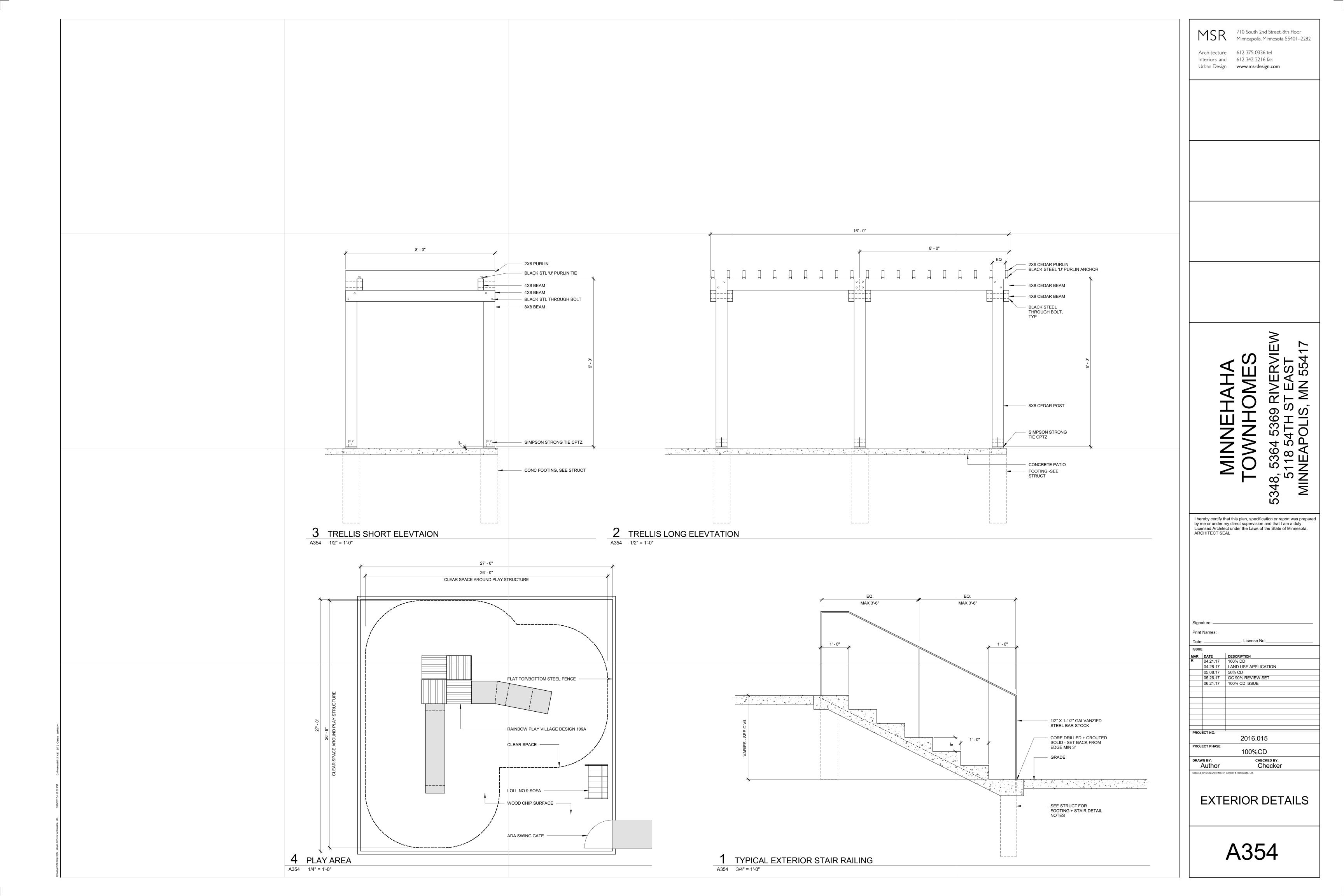
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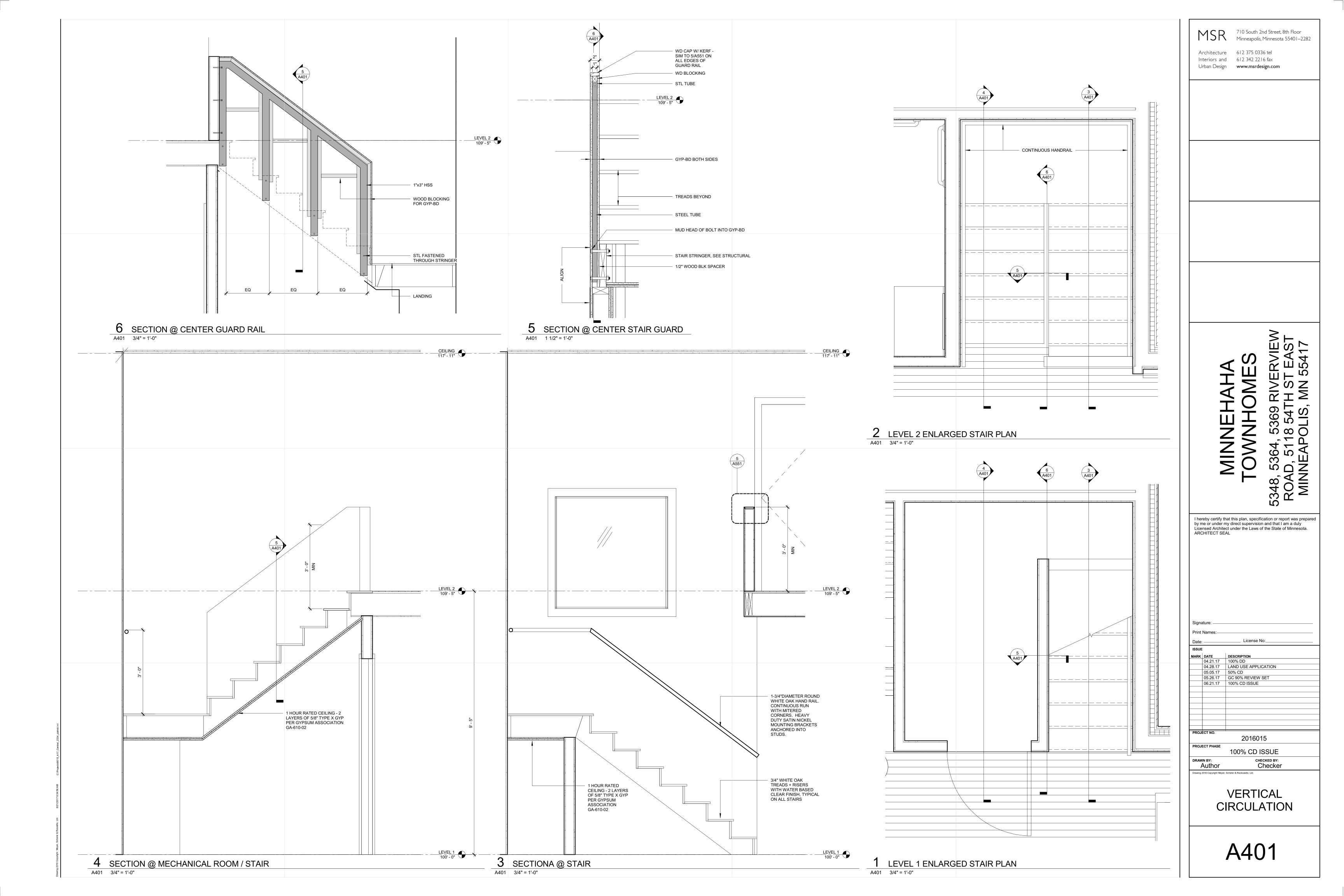
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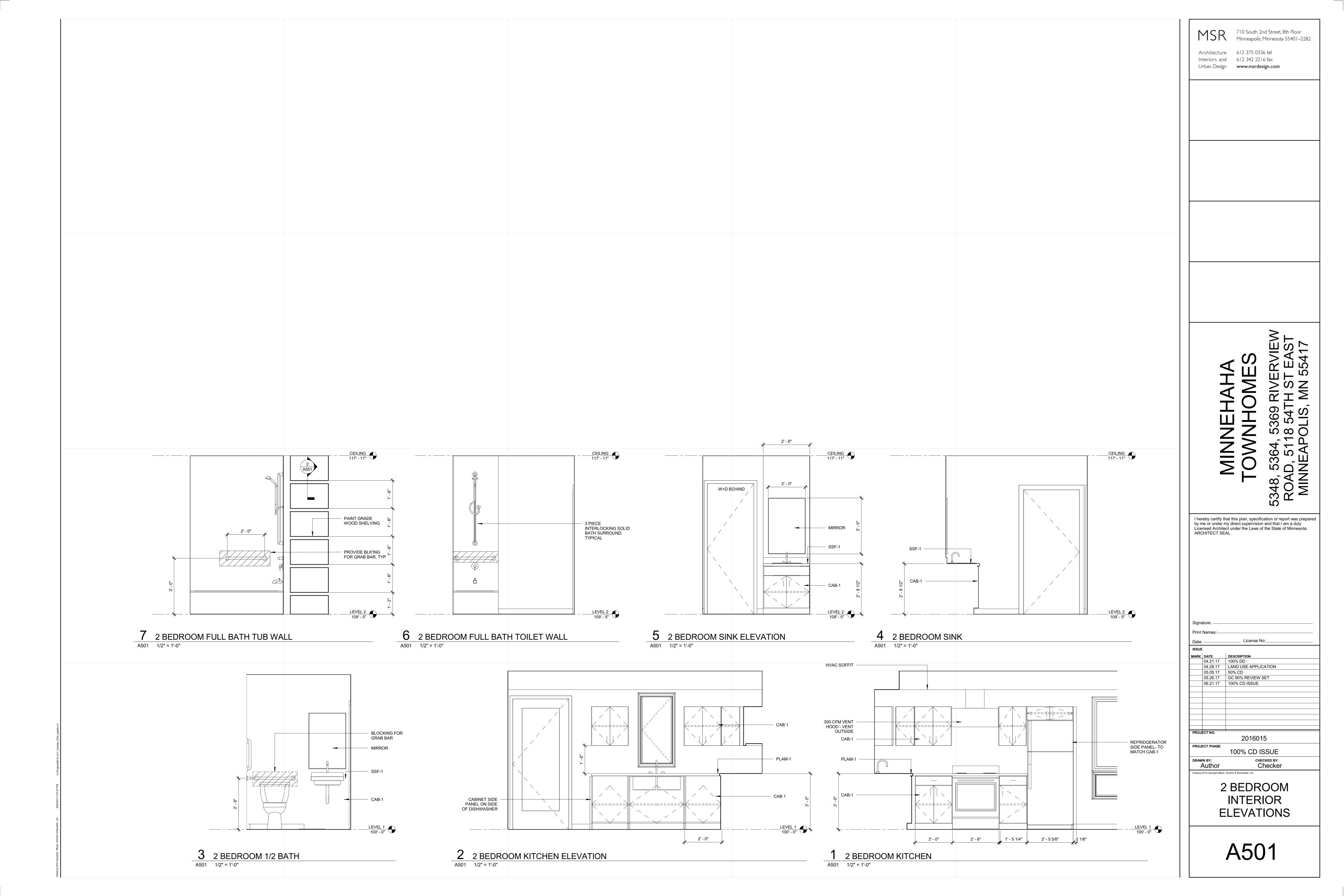


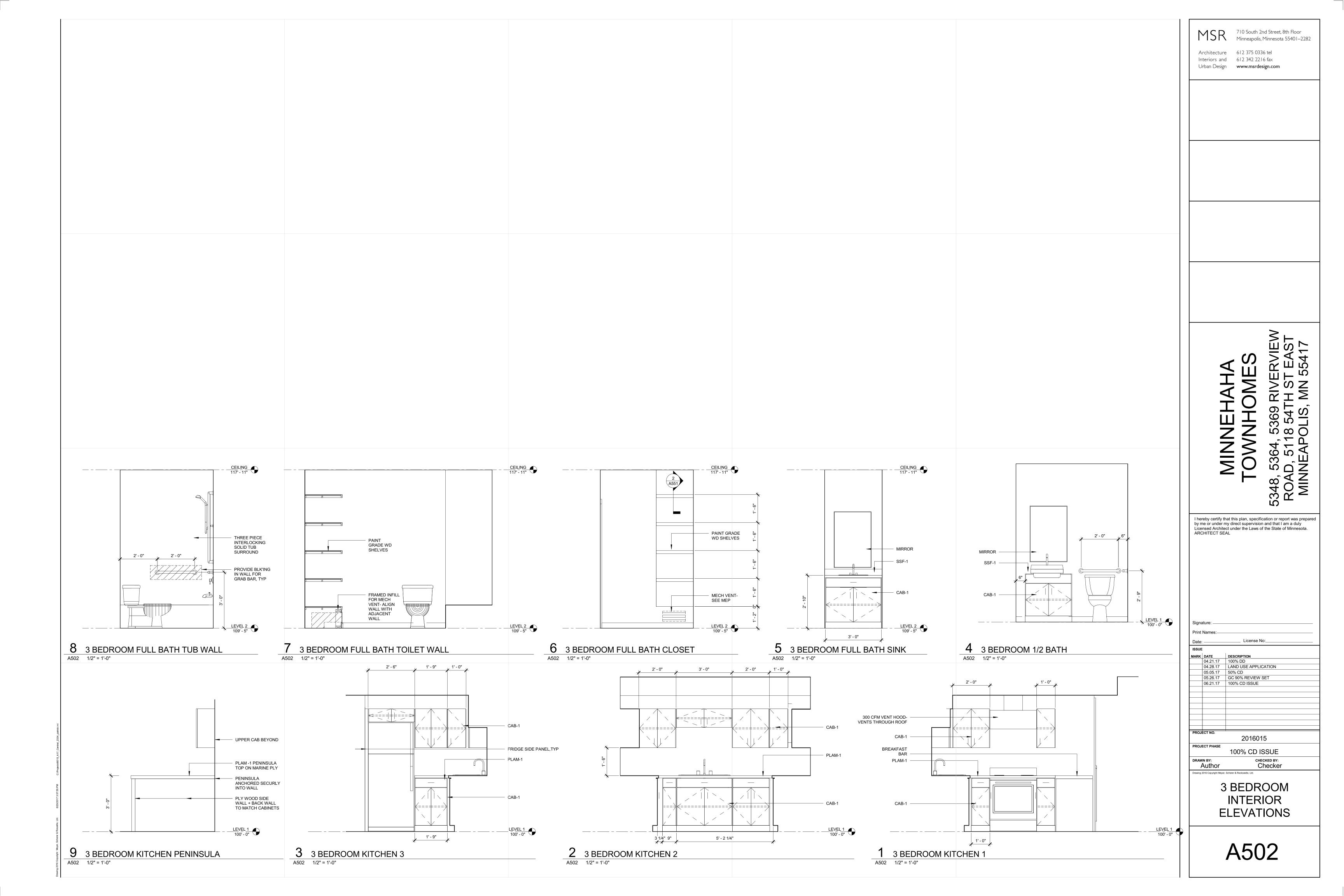


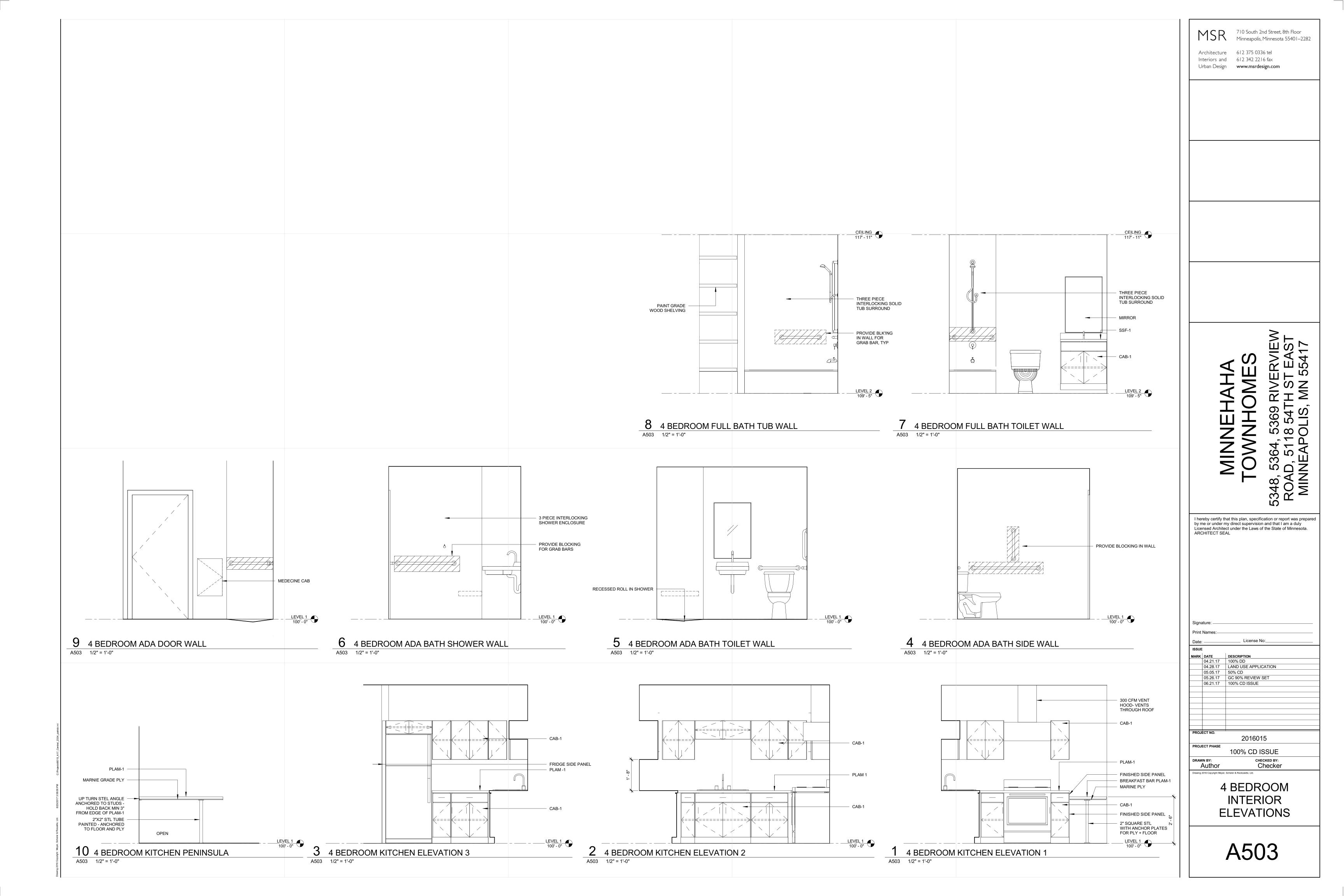


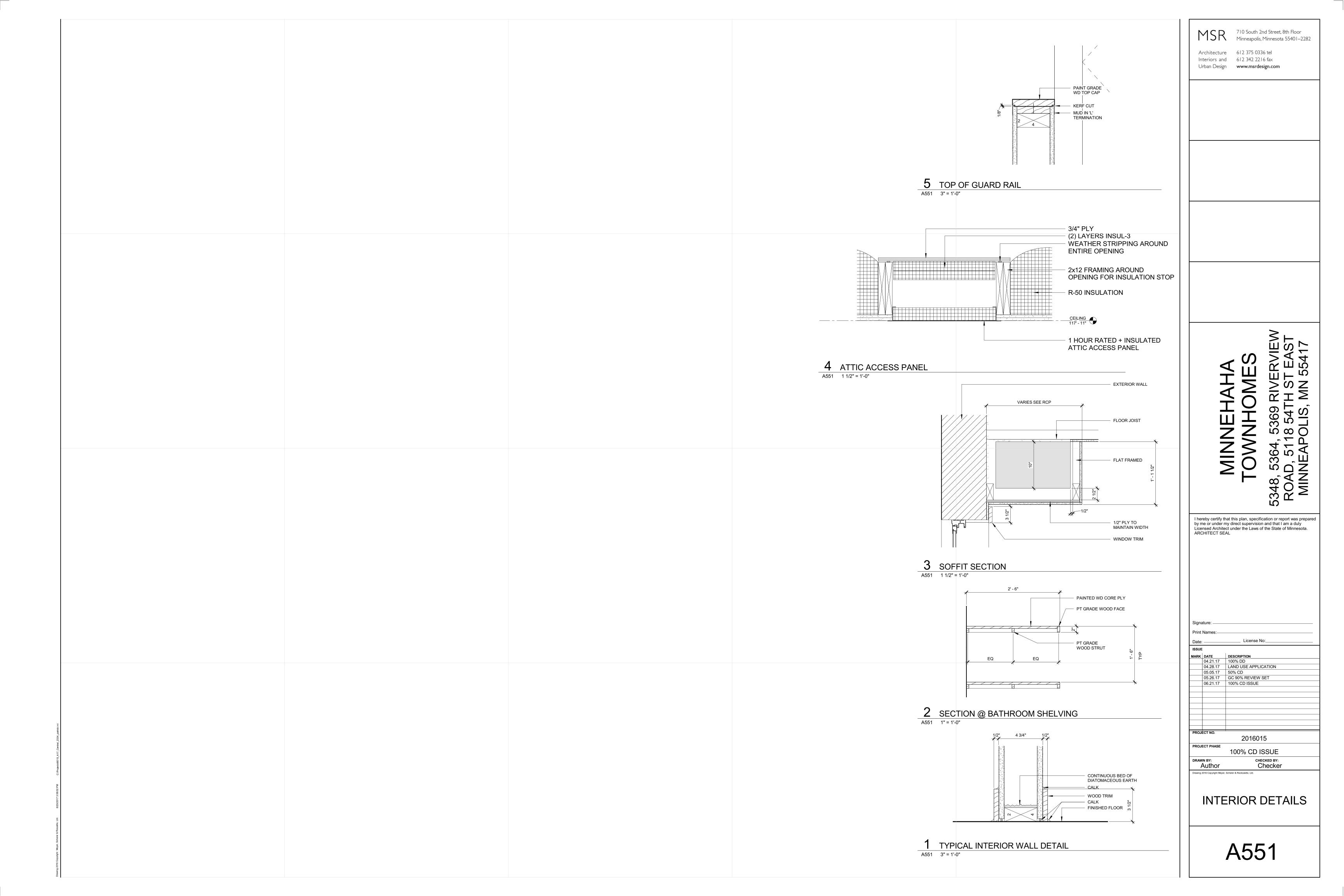


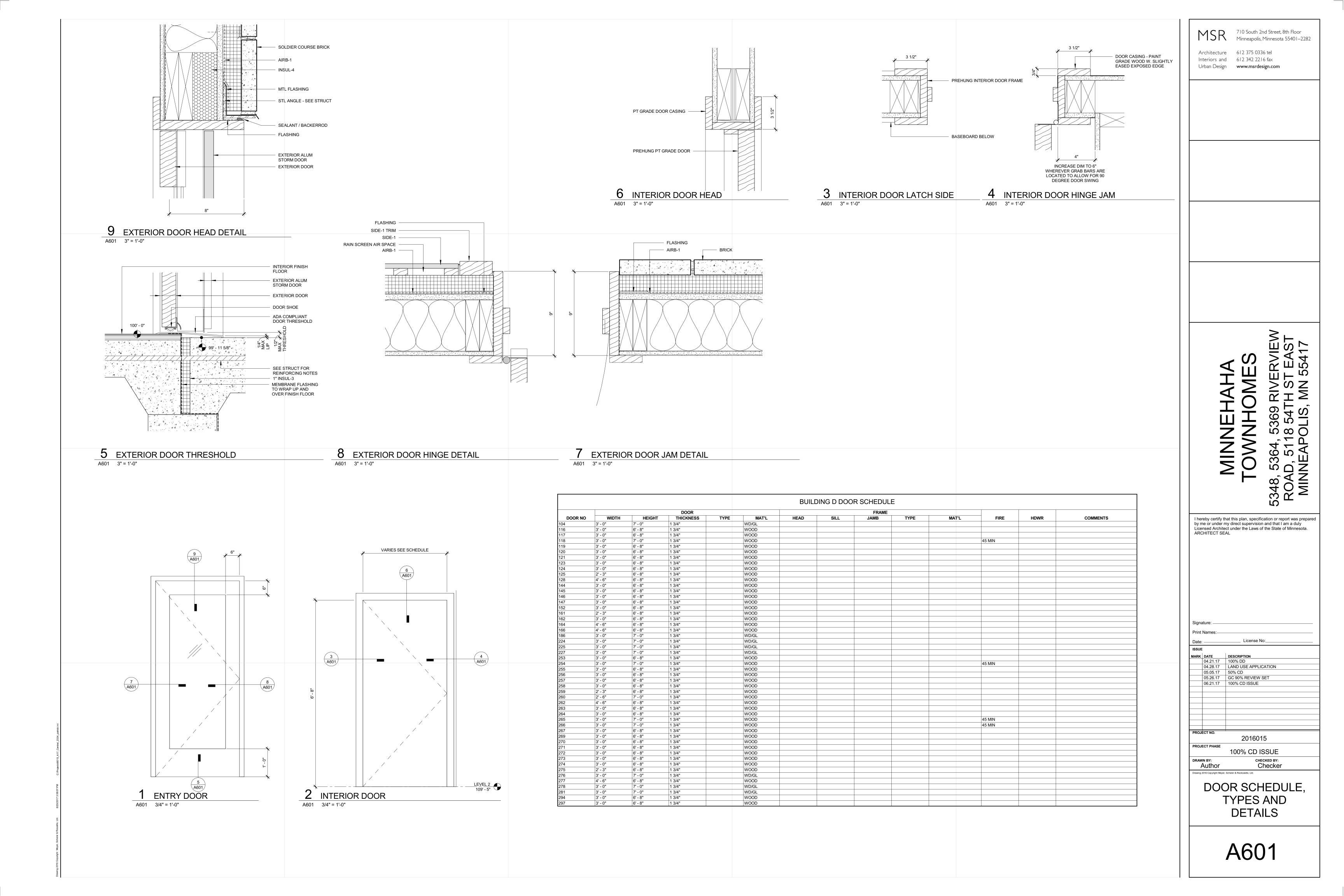










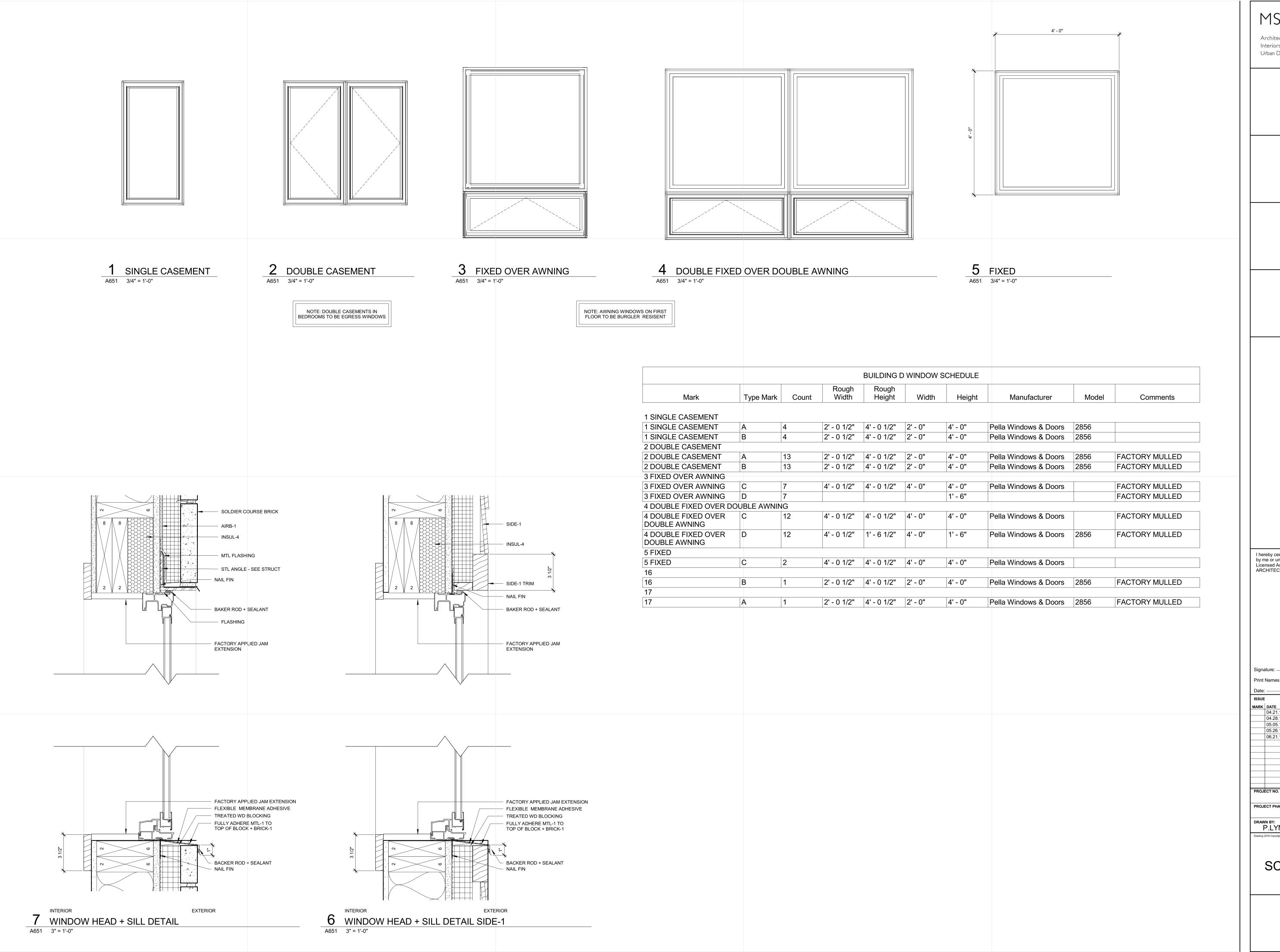


NOTE: DOOR SCHEDULE IS FOR ONE BUILDING. COUNT MUST BE EXTRAPOLATED OVER BUILDINGS A, B, + C  DOOR SCHEDULE												
	DOOR				FRAME							
DOOR NO	WIDTH	HEIGHT	THICKNESS	TYPE MAT'L	HEAD	SILL	JAMB	TYPE	MAT'L	FIRE	HDWR	COMMENTS
4	3' - 0"	7' - 0"	1 3/4"	WD/GL								
)	3' - 0"	6' - 8"	1 3/4"	WOOD								
2	3' - 0"	6' - 8"	1 3/4"	WOOD								
0	3' - 0"	6' - 8"	1 3/4"	WOOD								
1 5	3' - 0"	6' - 8"	1 3/4"	WOOD								
3	2' - 3"	6' - 8"	1 3/4"	WOOD WOOD								
)	4' - 6" 3' - 0"	6' - 8" 6' - 8"	1 3/4"	WOOD						45 MIN		
)	3' - 0"	6' - 8"	1 3/4"	WOOD						45 IVIIIN		
) 	3' - 0"	6' - 8"	1 3/4"	WOOD								
2	3' - 0"	6' - 8"	1 3/4"	WOOD						45 MIN		
3	4' - 6"	6' - 8"	1 3/4"	WOOD						TO IVIII V		
<del>)</del> 1	3' - 0"	6' - 8"	1 3/4"	WOOD								
<u>*                                    </u>	3' - 0"	6' - 8"	1 3/4"	WOOD								
3 3	3' - 0"	6' - 8"	1 3/4"	WOOD								
<del>3</del> 7	3' - 0"	6' - 8"	1 3/4"	WOOD								
3	3' - 0"	6' - 8"	1 3/4"	WOOD								
)	2' - 3"	6' - 8"	1 3/4"	WOOD								
)	4' - 6"	6' - 8"	1 3/4"	WOOD								
1	3' - 0"	6' - 8"	1 3/4"	WOOD								
2	3' - 0"	6' - 8"	1 3/4"	WOOD								
}	3' - 0"	6' - 8"	1 3/4"	WOOD						45 MIN		
1	3' - 0"	6' - 8"	1 3/4"	WOOD								
5	3' - 0"	6' - 8"	1 3/4"	WOOD								
3	3' - 0"	6' - 8"	1 3/4"	WOOD								
7	3' - 0"	6' - 8"	1 3/4"	WOOD								
3	3' - 0"	6' - 8"	1 3/4"	WOOD								
9	2' - 3"	6' - 8"	1 3/4"	WOOD								
)	4' - 6"	6' - 8"	1 3/4"	WOOD								
3	3' - 0"	6' - 8"	1 3/4"	WOOD								
9	3' - 0"	7' - 0"	1 3/4"	WD/GL								
)	3' - 0"	7' - 0"	1 3/4"	WD/GL								
5	3' - 0"	6' - 8"	1 3/4"	WOOD								
4	3' - 0"	7' - 0"	1 3/4"	WD/GL								
5 7	3' - 0"	7' - 0"	1 3/4"	WD/GL								
7	3' - 0"	7' - 0"	1 3/4"	WD/GL								
2	2' - 3"	6' - 8"	1 3/4"	WOOD								
3	3' - 0"	6' - 8"	1 3/4"	WOOD								
)	2' - 6"	7' - 0"	1 3/4"	WOOD								
1	4' - 6"	6' - 8"	1 3/4"	WOOD								
4	3' - 0"	7' - 0"	1 3/4"	WD/GL								
5	3' - 0" 3' - 0"	7' - 0"	1 3/4" 1 3/4"	WD/GL								
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	3' - 0"	6' - 8"	1 3/4"	WOOD								
	3' - 0"	6' - 8"	1 3/4"	WOOD								
	3' - 0"	6' - 8"	1 3/4"	WOOD						45 MIN		
}	3' - 0"	6' - 8"	1 3/4"	WOOD						TO IVIII V		
9	3' - 0"	6' - 8"	1 3/4"	WOOD								
0	3' - 0"	6' - 8"	1 3/4"	WOOD								
1	3' - 0"	6' - 8"	1 3/4"	WOOD								

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			<b>TOWNHOMES</b>	364,	MINNEAPOLIS, MN 55417
	€	2	$\vdash$	348,5364,5369 RIVERVIEW	MIN
I her	eby certify t	hat this	plan, specif		ort was prepare
	nsed Archite HITECT SE		er the Laws o	of the State of	Minnesota.
			_ License N	lo:	
ISSUE		ı	RIPTION		

BUILDING A,B,C DOOR SCHEDULE 2-3-3-3

A602



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 IRK
 DATE
 DESCRIPTION

 04.21.17
 100% DD

 04.28.17
 LAND USE APPLICATION

 05.05.17
 50% CD

 05.26.17
 GC 90% REVIEW SET

 06.21.17
 100% CD ISSUE

2016015

PROJECT PHASE

100% CD ISSUE

DRAWN BY: CHECKED BY: Checker

P.LYNCH Checker

WINDOW SCHEDULE, TYPES AND DETAILS

A651

NOTE: WINDOW SCHEDULE IS FOR OF BE EXTRAPOLATED OVER BUILDINGS		MUST		WINE	DOW SCHE	DULE			
Mark	Type Mark	Count	Rough Width	Rough Height	Width	Height	Manufacturer	Model	Comments
1 SINGLE CASEMENT									
1 SINGLE CASEMENT	Α	4	2' - 0 1/2"	4' - 0 1/2"	2' - 0"	4' - 0"	Pella Windows & Doors	2856	
1 SINGLE CASEMENT	В	3	2' - 0 1/2"	4' - 0 1/2"	2' - 0"	4' - 0"	Pella Windows & Doors	2856	
2 DOUBLE CASEMENT						-			
2 DOUBLE CASEMENT	Α	12	2' - 0 1/2"	4' - 0 1/2"	2' - 0"	4' - 0"	Pella Windows & Doors	2856	FACTORY MULLED
2 DOUBLE CASEMENT	В	12	2' - 0 1/2"	4' - 0 1/2"	2' - 0"	4' - 0"	Pella Windows & Doors	2856	FACTORY MULLED
3 FIXED OVER AWNING			"		1				,
3 FIXED OVER AWNING	С	10	4' - 0 1/2"	4' - 0 1/2"	4' - 0"	4' - 0"	Pella Windows & Doors		FACTORY MULLED
3 FIXED OVER AWNING	D	10				1' - 6"			FACTORY MULLED
DOUBLE FIXED OVER D	OUBLE AWNII	NG	"	<u>'</u>		-		1	
1 DOUBLE FIXED OVER DOUBLE AWNING	С	10	4' - 0 1/2"	4' - 0 1/2"	4' - 0"	4' - 0"	Pella Windows & Doors		FACTORY MULLED
DOUBLE FIXED OVER DOUBLE AWNING	D	10	4' - 0 1/2"	1' - 6 1/2"	4' - 0"	1' - 6"	Pella Windows & Doors	2856	FACTORY MULLED
5 FIXED						-			
5 FIXED	С	2	4' - 0 1/2"	4' - 0 1/2"	4' - 0"	4' - 0"	Pella Windows & Doors		

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 LAND USE APPLICATION

 05.08.17
 50% CD

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 GC 90% REVIEW SET

 06.21.17
 100% CD ISSUE
 PROJECT NO. 2016015 PROJECT PHASE GC 90% REVIEW SET CHECKED BY: Checker drawn by: Author

BUILDING A,B,C WINDOW SCHEDULE 2-3-3-3

# **GENERAL PLUMBING NOTES**

INFORMATION. THIS ENGINEER WILL NOT BE LIABLE FOR MISCALCULATED PRODUCT TAKE-OFFS DUE TO SCALING OF DRAWINGS.

THESE DRAWINGS SHALL NOT BE SCALED. SEE ARCHITECTURAL/CIVIL DRAWINGS FOR DIMENSIONAL

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FITTINGS AS REQUIRED BY ALL APPLICABLE CODES AND GOVERNING AUTHORITIES.
- CONTRACTOR SHALL VERIFY ANY POSSIBLE DISCREPANCIES BETWEEN TYPE AND SIZE OF CONNECTION SPECIFIED IN PLUMBING FIXTURE SCHEDULE AND FIXTURES ACTUALLY INSTALLED ON THE SITE AND CORRECT AS REQUIRED TO MEET ALL CODES AND REGULATIONS
- 4. ALL SANITARY PIPING SHALL HAVE A 1/8" PER FOOT SLOPE UNLESS OTHERWISE NOTED. 2" SANITARY OR 20. PROVIDE ACCESS PANELS TO ALL VALVES ABOVE INACCESSIBLE CEILINGS. REFER TO SMALLER SHALL HAVE A 1/4" PER FOOT SLOPE.
- 5. VENT PIPING SHOWN ON FLOOR PLANS IS DIAGRAMMATIC EXCEPT FOR VENT THRU ROOF (VTR) LOCATIONS.
- VALVES AND FITTINGS SHALL BE OF SAME SIZE AS THE LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWINGS.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.
- 8. CONTRACTOR SHALL FIELD VERIFY ALL GIVEN MEASUREMENTS PRIOR TO LAYING AND CONNECTING ALL SANITARY AND WASTE PIPING AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.
- ALL WATER SUPPLY AND SANITARY LINES SHALL BE RUN AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGES IN SIZING.
- 8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
- 9. CHANGES IN THE DIRECTION OF SANITARY PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT UNLESS PHYSICALLY IMPOSSIBLE (I.E.: USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, IN GENERAL, USE OF SHORT-RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION).
- 10. CONTRACTOR SHALL GIVE 48 HOURS/24 HOUR EMERGENCY LOCATE NOTICE TO APPLICABLE UTILITY COMPANY PRIOR TO PERFORMING WORK INVOLVING UTILITIES.
- 11. ALL DRAINAGE PIPING SHALL BE MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION
- 12. WHERE SANITARY SEWER LINES CROSS UNDERGROUND WATER SUPPLY LINES WITH LESS THAN 8" MINIMUM VERTICAL CLEARANCE, THE SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (10'-0" EACH SIDE OF WATER MAIN) OR THE WATER LINES SHOULD BE MODIFIED TO PROVIDE 8" MINIMUM CLEARANCE.

- 18. CONTRACTOR SHALL GIVE 24 HOUR NOTICE IN WRITING TO, AND RECEIVE WRITTEN APPROVAL, FROM THE BUILDING ADMINISTRATOR (OR HIS REPRESENTATIVE) PRIOR TO SHUT DOWN OF ANY SYSTEM OR DISRUPTION OF SERVICE TO ANY AREA. CONTRACTOR SHALL ALSO COORDINATE THE EXACT LOCATION AND TIMING OF SYSTEM(S) SHUTDOWN POINTS WITH THE OWNER REPRESENTATIVE (I.E.: ENGINEERING DEPARTMENT) CONTRACTOR SHALL MAKE EVERY EFFORT POSSIBLE TO MINIMIZE THE DURATION OF ANY DOWNTIME OR DISRUPTION PERIOD.
- 19. ROUTE ALL PIPING CONCEALED ABOVE CEILINGS, WITHIN WALLS, OR IN CHASES. PIPING EXPOSED SHALL BE SLOPED AND PAINTED TO MATCH ARCHITECTURAL FINISHES. PIPING IN MECHANICAL ROOMS MAY BE EXPOSED.
- ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- 21. COORDINATE WITH ARCHITECT/GENERAL CONTRACTOR FOR INSTALLATION OF HOSE BIBBS.
- 22. CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.
- 23. ALL VENTS THROUGH ROOF SHALL BE MIN. 10'-0" FROM ANY AIR INTAKES.
- 24. CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
- 25. CONTRACTOR SHALL ROUGH-IN ALL WASTES AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES SHALL BE VALVED. INSTALL VACUUM BREAKERS WHERE REQUIRED BY CODE.
- 26. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INCLUDING PIPE ROUTING AND EQUIPMENT LOCATIONS) TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE INSTALLATION OR PURCHASING OF ANY PIPING AND/OR EQUIPMENT.
- 27. PROVIDE REDUCED PRESSURE BACKFLOW PREVENTERS FOR DOMESTIC WATER SUPPLIES AS REQUIRED BY LOCAL WATER PURVEYORS. TEST AND REGISTER WITH APPROPRIATE CODE
- 28. COORDINATE EXACT LOCATION OF FLOOR DRAINS FOR HVAC EQUIPMENT WITH MECHANICAL CONTRACTOR.
- 29. THE CONTRACTOR IS EXPECTED TO ORDER ALL MATERIALS IN SUFFICIENT TIME TO AVOID DELAYING THE COMPLETION OF THE PROJECT, DELAY IN DELIVERIES WILL NOT BE CONSIDERED A JUSTIFIABLE REASON FOR SUBMISSION OF SUBSTITUTE MATERIALS.
- 30. DO NOT PENETRATE WALL FOOTINGS WITH PIPING, COORDINATE WITH GENERAL CONTRACTOR TO DROP FOOTINGS AS REQUIRED TO CLEAR PLUMBING SERVICES WHERE ABSOLUTELY NECESSARY. ALL PIPING PENETRATING A BEARING WALL OR FOOTING MUST BE SLEEVED AND LOCATION APPROVED BY STRUCTURAL ENGINEER. PROVIDE LINK-SEALS IN ALL PENETRATIONS OF EXTERIOR WALLS.
- 31. ALL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE IN PROVIDED CEILING SPACE.
- 32. COORDINATE PIPING INSTALLATION AS TO NOT INTERFERE WITH HVAC EQUIPMENT ACCESS.
- 33.. ANY ERRORS OR AMBIGUITIES IN THE PLANS AND/OR SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE WORK IS STARTED. OMISSION OF PARTICULAR REFERENCE TO ANY ITEM NECESSARY FOR COMPLETE INSTALLATION AND PROPER OPERATION THEREOF SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING THE SAME AT NO EXTRA COST. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL CONSTRUCTION DOCUMENTS FOR INFORMATION PRIOR TO

	PLUMBING PIPING LEGEND
—≌—	CIRCUIT SETTER
<b>⊸</b> Ā—	BALL VALVE OR SHUT-OFF VALVE
	SPRING CHECK VALVE
_ <u>K</u> _	PRESSURE REDUCING VALVE (PRV)
A V	RPZ VALVE OR BACKFLOW PREVENTER
P	HAMMER ARRESTOR (PISTON TYPE)
Ø	HAMMER ARRESTOR (BELLOWS TYPE)
<b>─</b>	PIPE REDUCER FITTING
€	END CAP
	PIPE CONNECTION
	FLOW DIRECTION ARROW
θ—	PIPING ELBOW DOWN
<u> </u>	PIPING ELBOW UP OR PIPING RISER UP & DOWN
<del></del>	PIPING TEE DOWN
<b>—</b>	PIPING TEE UP OR PIPING RISER UP & DOWN
o <del></del>	HOSE BIB OR WALL HYDRANT
(M)	FLOW METER
R	PRESSURE REGULATOR

	PLUMBING SHEET INDEX					
P000	PLUMBING TITLE SHEET					
P001	PLUMBING SITE PLAN					
P100A	PLUMBING BELOW GRADE PLAN - BUILDINGS A, B, & C					
P100B	PLUMBING BELOW GRADE PLAN - BUILDING D					
P101A	PLUMBING DOMESTIC WATER PLAN - BUILDINGS A, B, & C					
P101B	PLUMBING DOMESTIC WATER PLAN - BUILDING D					
P102A	PLUMBING SANITARY PLAN - BUILDINGS A, B, & C					
P102B	PLUMBING SANITARY PLAN - BUILDING D					
P300A	PLUMBING DOMESTIC WATER RISER - BUILDINGS A, B, & C					
P300B	PLUMBING DOMESTIC WATER RISER - BUILDING D					
P301A	PLUMBING SANITARY RISER - BUILDINGS A, B, & C					
P301B	PLUMBING SANITARY RISER - BUILDING D					
P400	PLUMBING DETAILS AND SCHEMATICS					
P500	PLUMBING SCHEDULES					

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MARK DATE

PROJECT NO M10.17.02 PROJECT PHASE 100% CD ISSUE

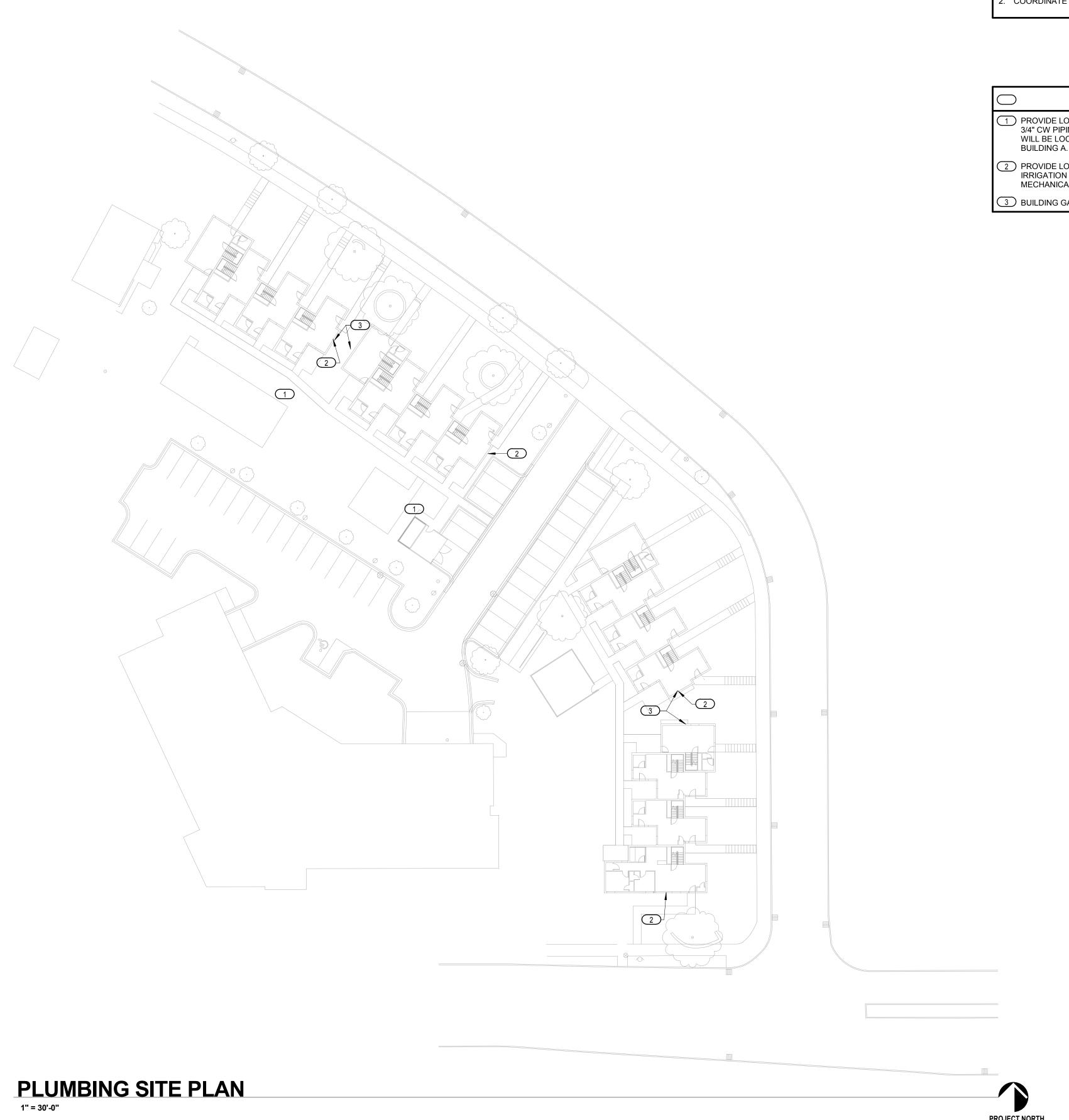
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PLUMBING TITLE

SHEET

P000



**GENERAL NOTES** 

REFER TO P000 FOR ADDITIONAL NOTES, SYMBOLS, AND ABBREVIATIONS.

2. COORDINATE CW PIPING WITH CIVIL.

KEYED NOTES

PROVIDE LOCKABLE FREEZELESS YARD HYDRANT <u>YH-1</u>. ROUTE 3/4" CW PIPING BELOW GRADE FROM IRRIGATION METER. METER WILL BE LOCATED IN SOUTH TOWNHOME MECHANICAL ROOM IN BUILDING A.

PROVIDE LOCKABLE FREEZELESS WALL HYDRANT WH-1.
IRRIGATION METER SHALL BE LOCATED IN ADJACENT TOWNHOME
MECHANICAL ROOM WITH LOCK OPEN SHUT OFF VALVE.

3 BUILDING GAS METER BANK LOCATION.

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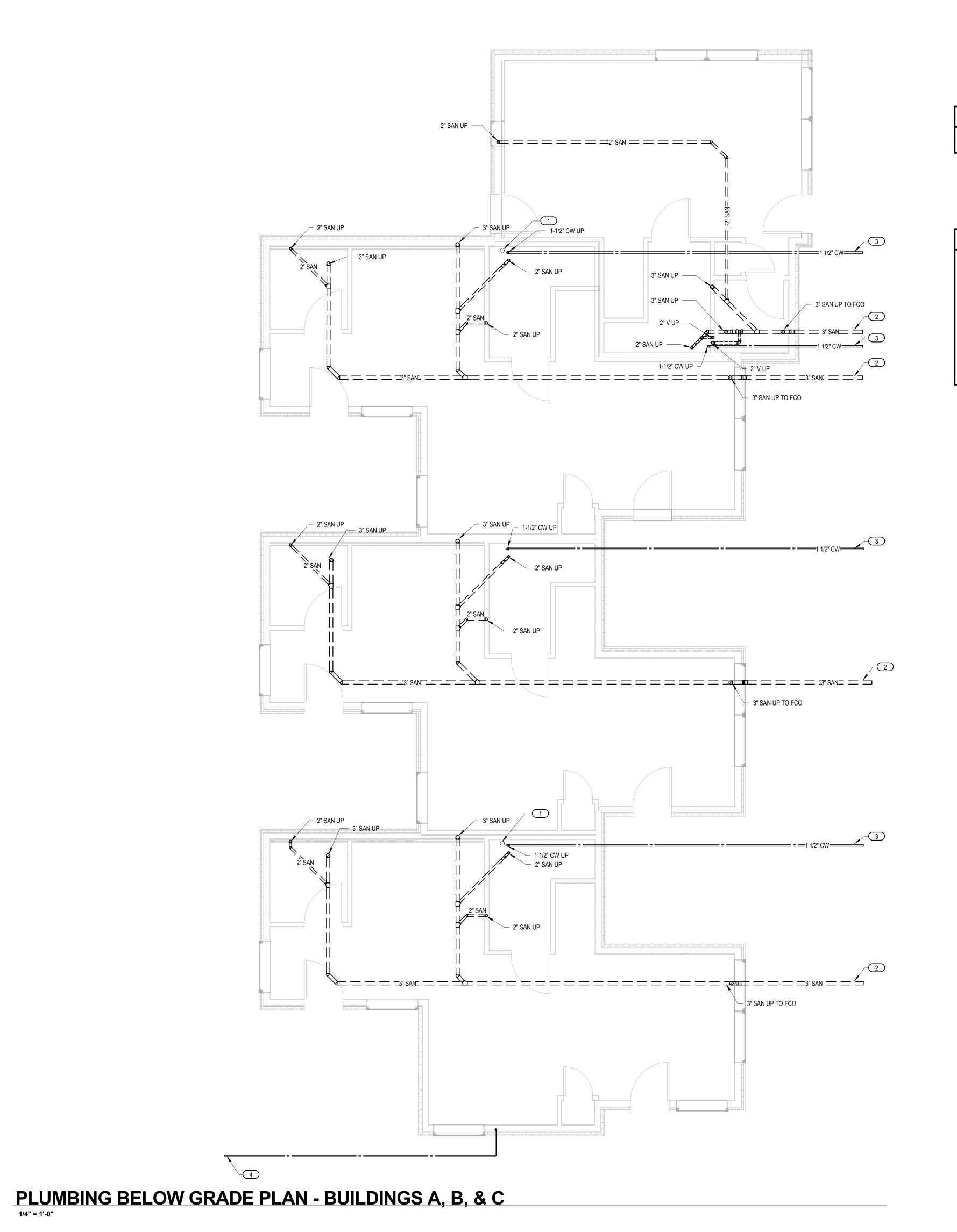
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> PLUMBING SITE PLAN

> > P001



**GENERAL NOTES** 

REFER TO P000 FOR ADDITIONAL NOTES, SYMBOLS, AND ABBREVIATIONS.

# KEYED NOTES

- 1 RADON MITIGATION, 4" VENT UP.
- 2 ROUTE 3" SANITARY TO EXTERIOR OF BUILDING. THIS CONTRACTOR RESPONSIBLE FOR WORK WITHIN 5'-0" FROM BUILDING EXTERIOR FACE. COORDINATE FINAL CONNECTION WITH SITE UTILITY CONTRACTOR. REFER TO CIVIL PLANS.
- 3 ROUTE 1-1/2" DOMESTIC WATER TO EXTERIOR OF BUILDING AT 8'-0" BELOW GRADE. THIS CONTRACTOR RESPONSIBLE FOR WORK
  WITHIN 5'-0" FROM BUILDING EXTERIOR FACE. COORDINATE FINAL CONNECTION WITH SITE UTILITY CONTRACTOR. REFER TO CIVIL
- 4 BUILDING A: ROUTE 3/4" CW PIPING BELOW GRADE TO YARD HYDRANTS. REFER TO P001 FOR LOCATIONS. COORDINATE FINAL LAYOUT WITH SITE CONTRACTOR. REFER TO CIVIL PLANS.

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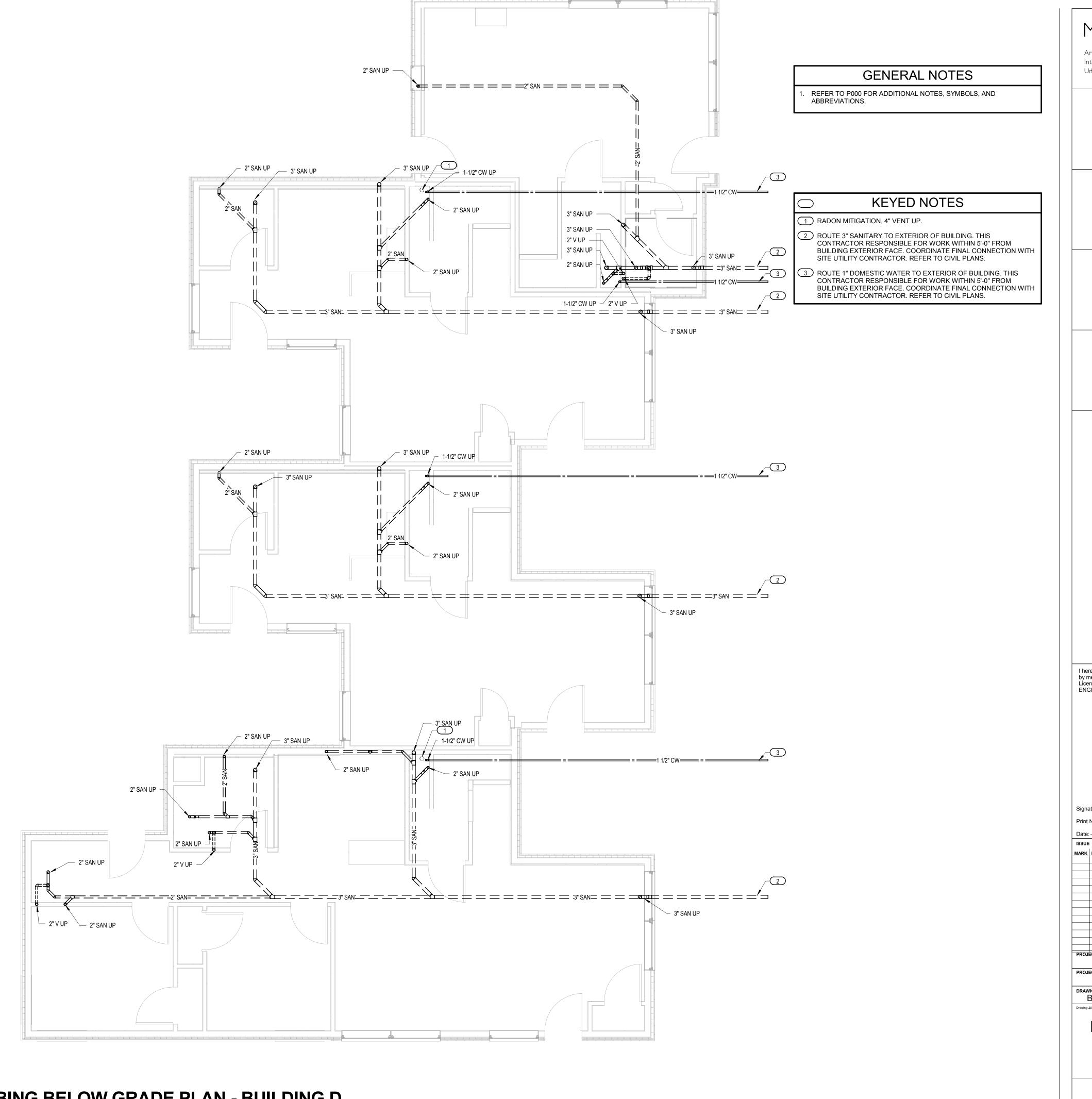


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PLUMBING BELOW GRADE PLAN -BUILDINGS A, B, & C

P100A

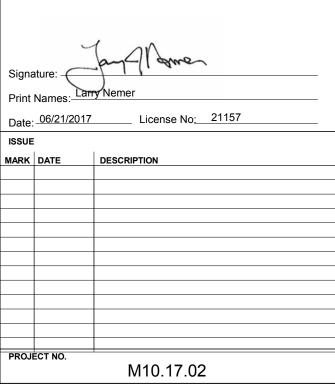


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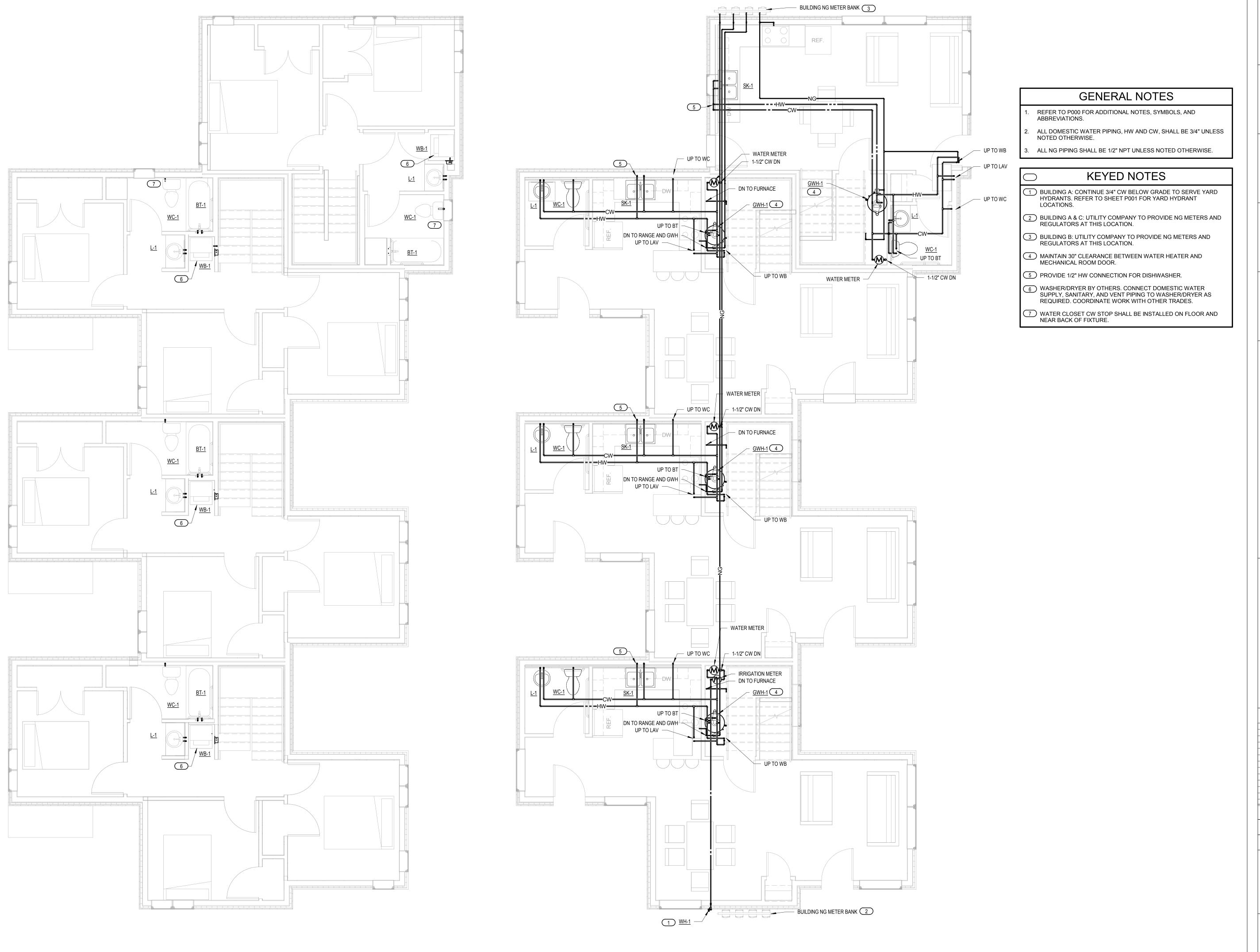


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PLUMBING BELOW GRADE PLAN -BUILDING D

P100B



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5348 RIVERVIEW ROAD

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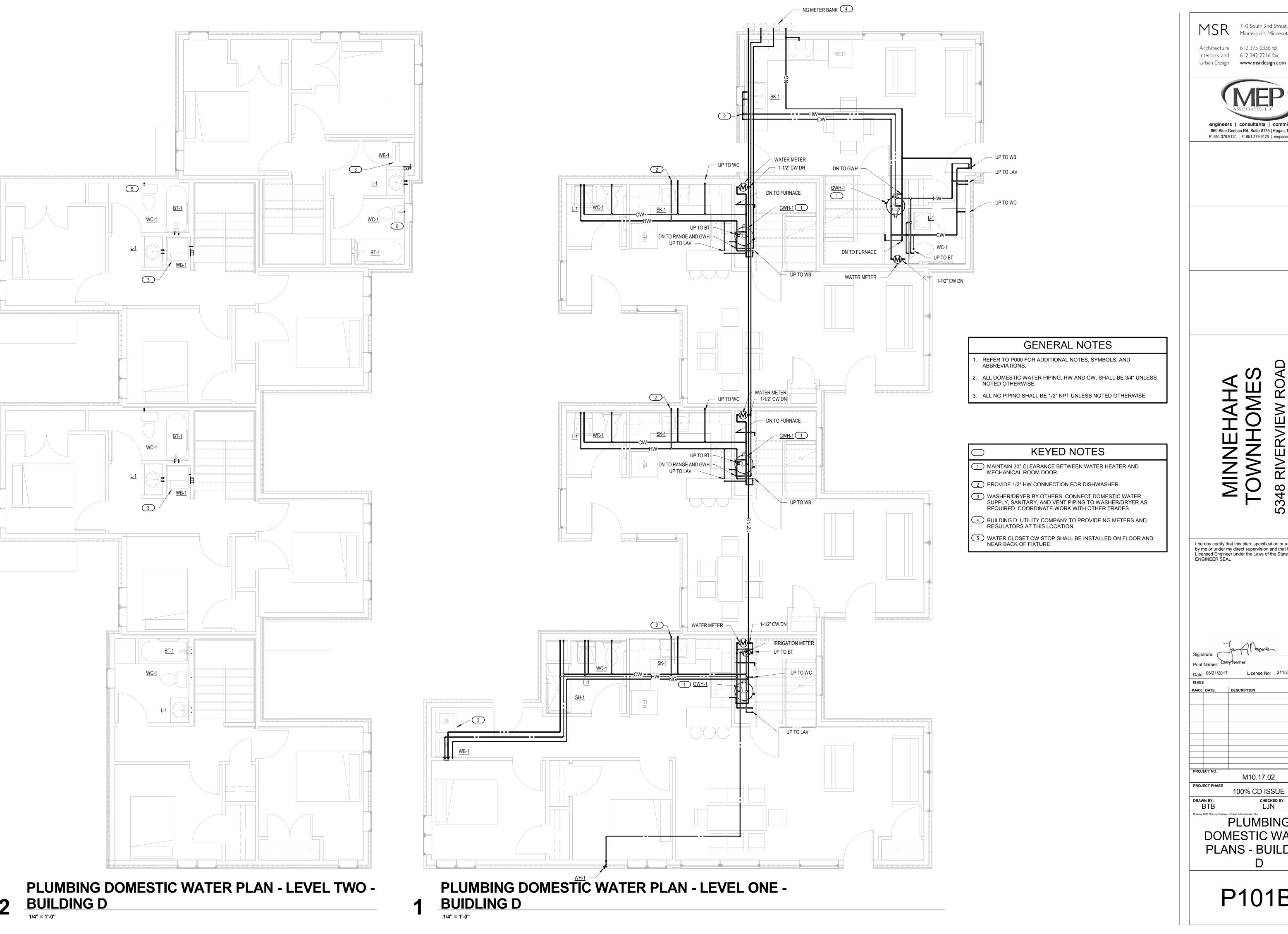
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BTB

Date: Mark | Date | Description | Description

PLUMBING
DOMESTIC WATER
PLANS - BUILDINGS
A, B, & C

P101A



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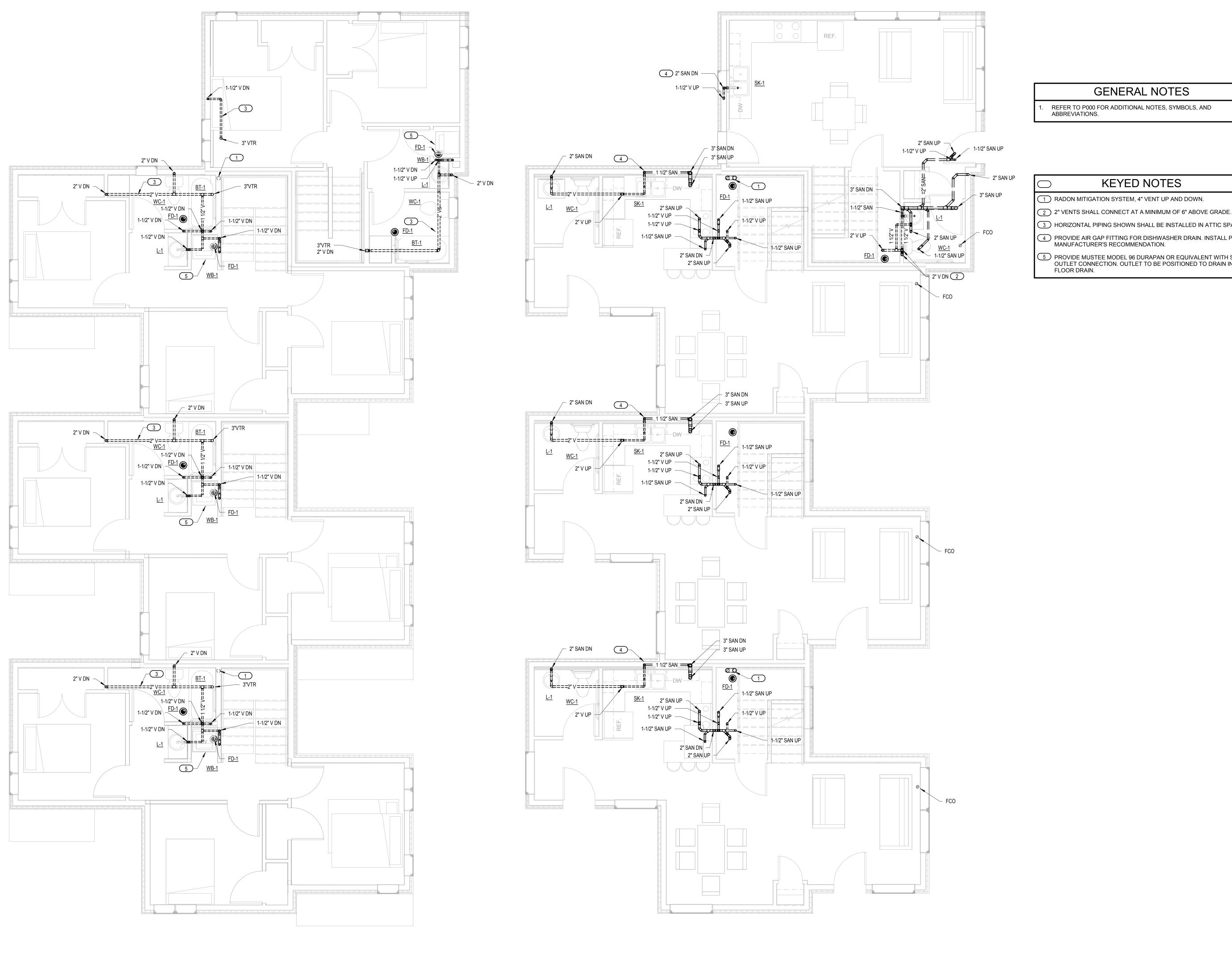
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PLUMBING DOMESTIC WATER PLANS - BUILDING

P101B



REFER TO P000 FOR ADDITIONAL NOTES, SYMBOLS, AND

- 1) RADON MITIGATION SYSTEM, 4" VENT UP AND DOWN.

- 4 PROVIDE AIR GAP FITTING FOR DISHWASHER DRAIN. INSTALL PER MANUFACTURER'S RECOMMENDATION.
- 5 PROVIDE MUSTEE MODEL 96 DURAPAN OR EQUIVALENT WITH SIDE OUTLET CONNECTION. OUTLET TO BE POSITIONED TO DRAIN INTO

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**PLUMBING** SANITARY PLANS -BUILDINGS A, B, & C

P102A

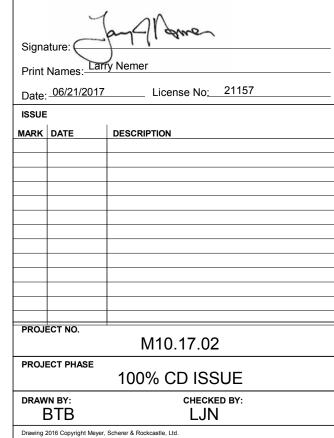


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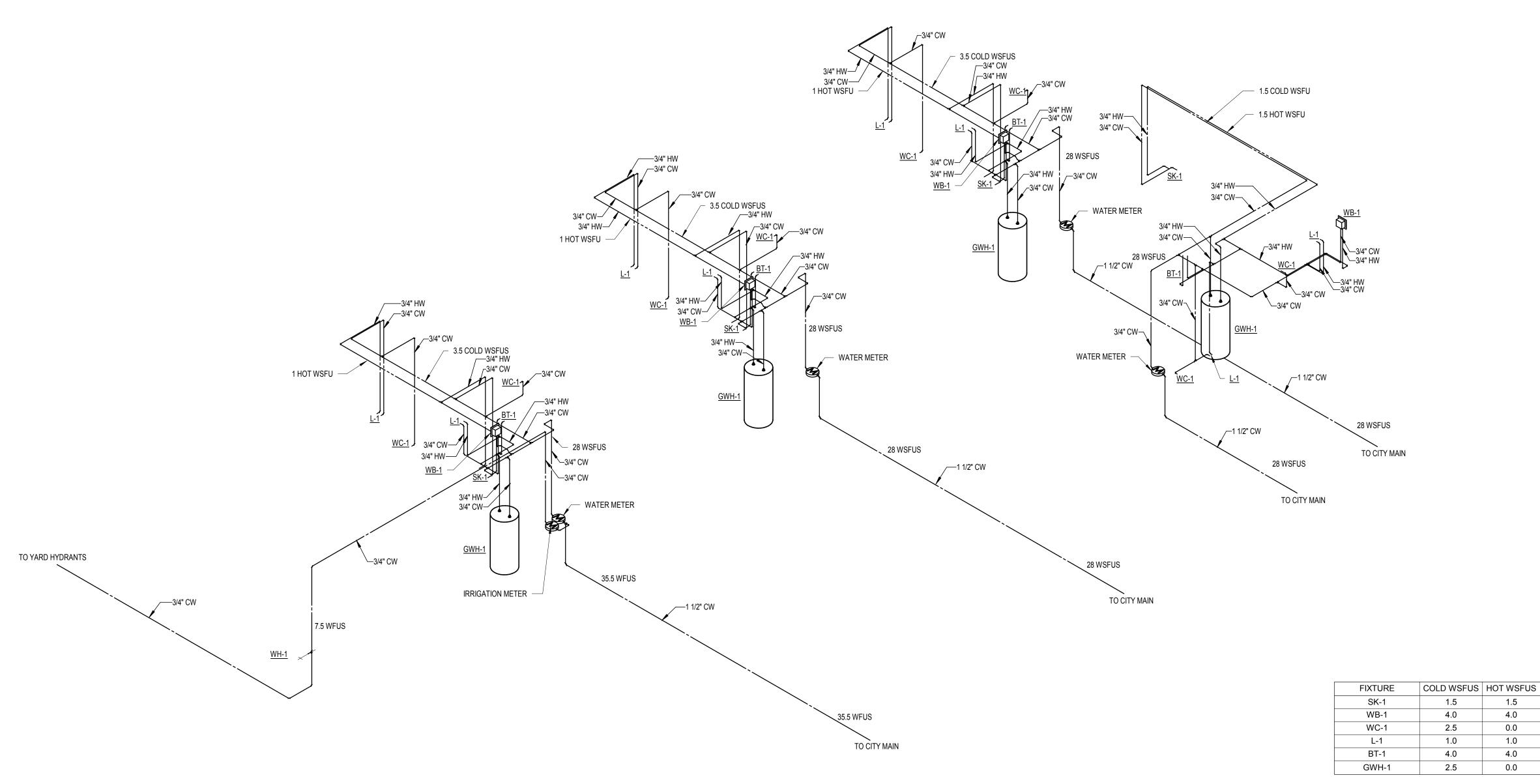


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**PLUMBING** SANITARY PLANS -BUILDING D

P102B



NOTE: FIXTURE UNITS SHOWN APPLY TO ALL FIXTURES AND IMMEDIATE BRANCHES. COMBINED BRANCHES AND MAINS SHOWN WITH FIXTURE UNITS ON ISOMETRIC.

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PLUMBING DOMESTIC WATER RISER - BUILDINGS A, B, & C

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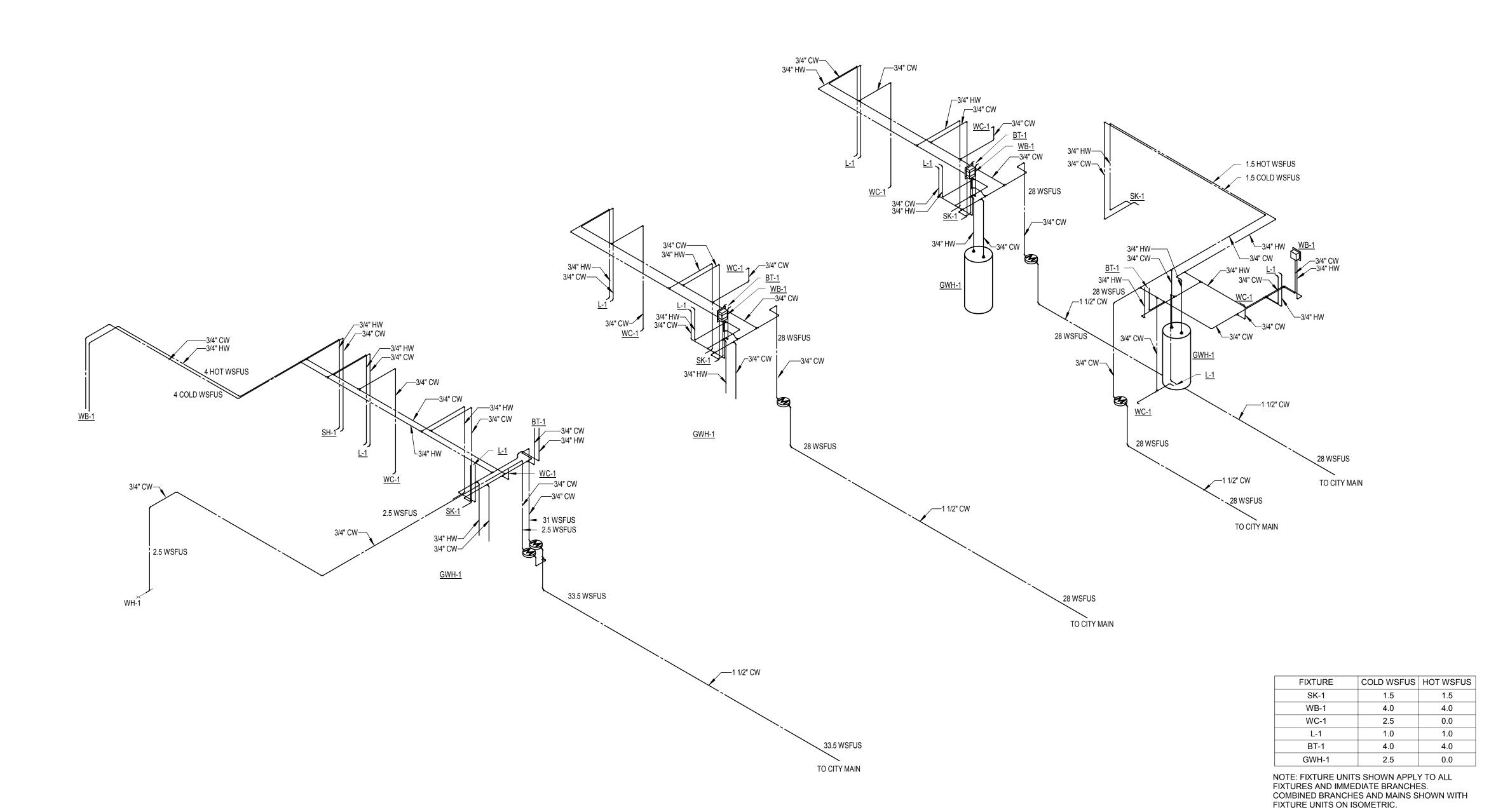
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Print Names: Larry Nemer
Date: 06/21/2017 License No: 21157
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PLUMBING DOMESTIC WATER RISER - BUILDINGS A, B, & C

P300A



1 PLUMBING DOMESTIC WATER RISER - BUILDING D

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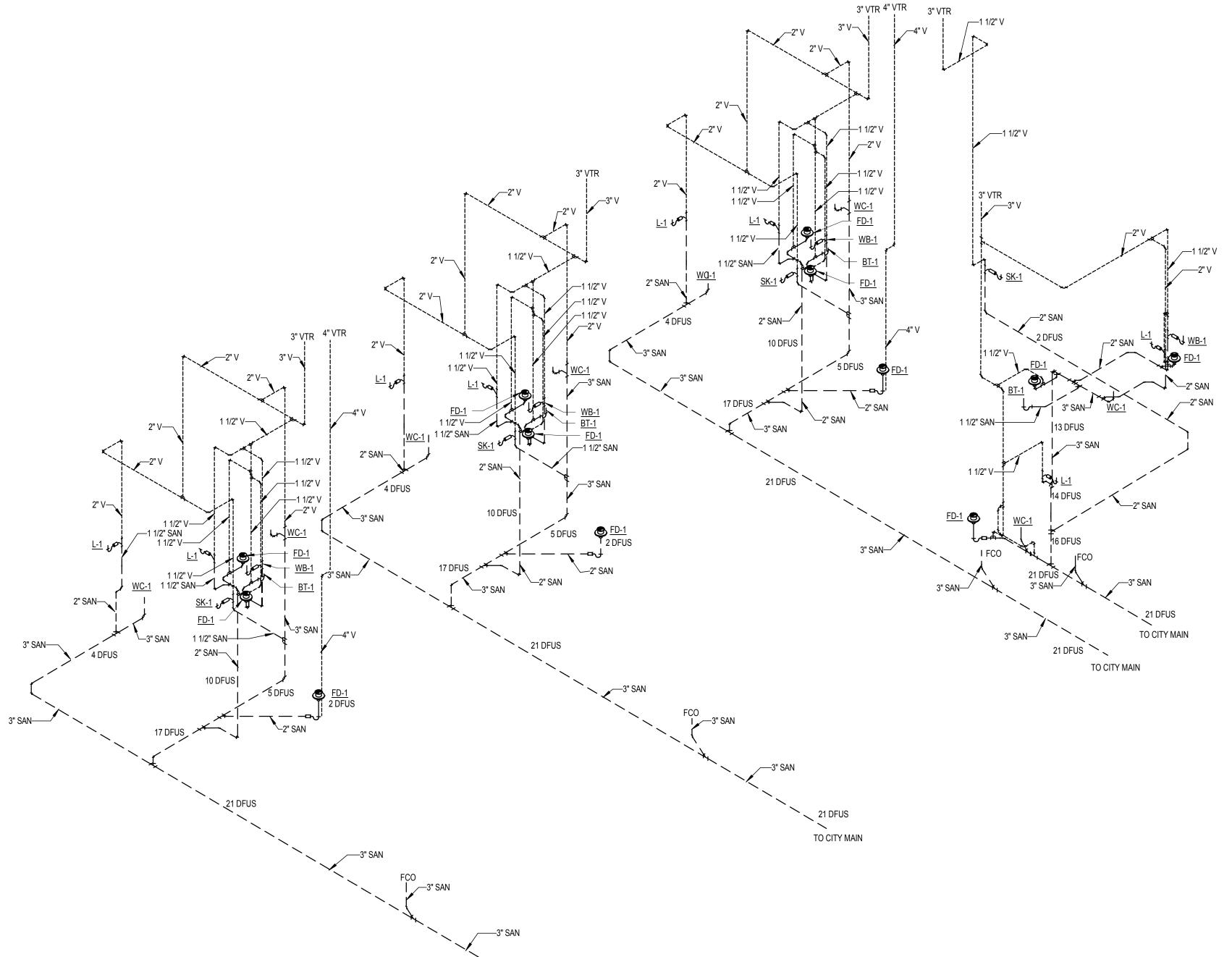
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PLUMBING
DOMESTIC WATER
RISER - BUILDING

D

P300B



FIXTURE	DFUS
FD-1	2.0
SK-1	2.0
WB-1	3.0
WC-1	3.0
L-1	1.0
BT-1	2

NOTE: FIXTURE UNITS SHOWN APPLY TO ALL FIXTURES AND IMMEDIATE BRANCHES. COMBINED BRANCHES AND MAINS SHOWN WITH FIXTURE UNITS ON ISOMETRIC.

1 PLUMBING SANITARY RISER - BUILDINGS A, B, & C

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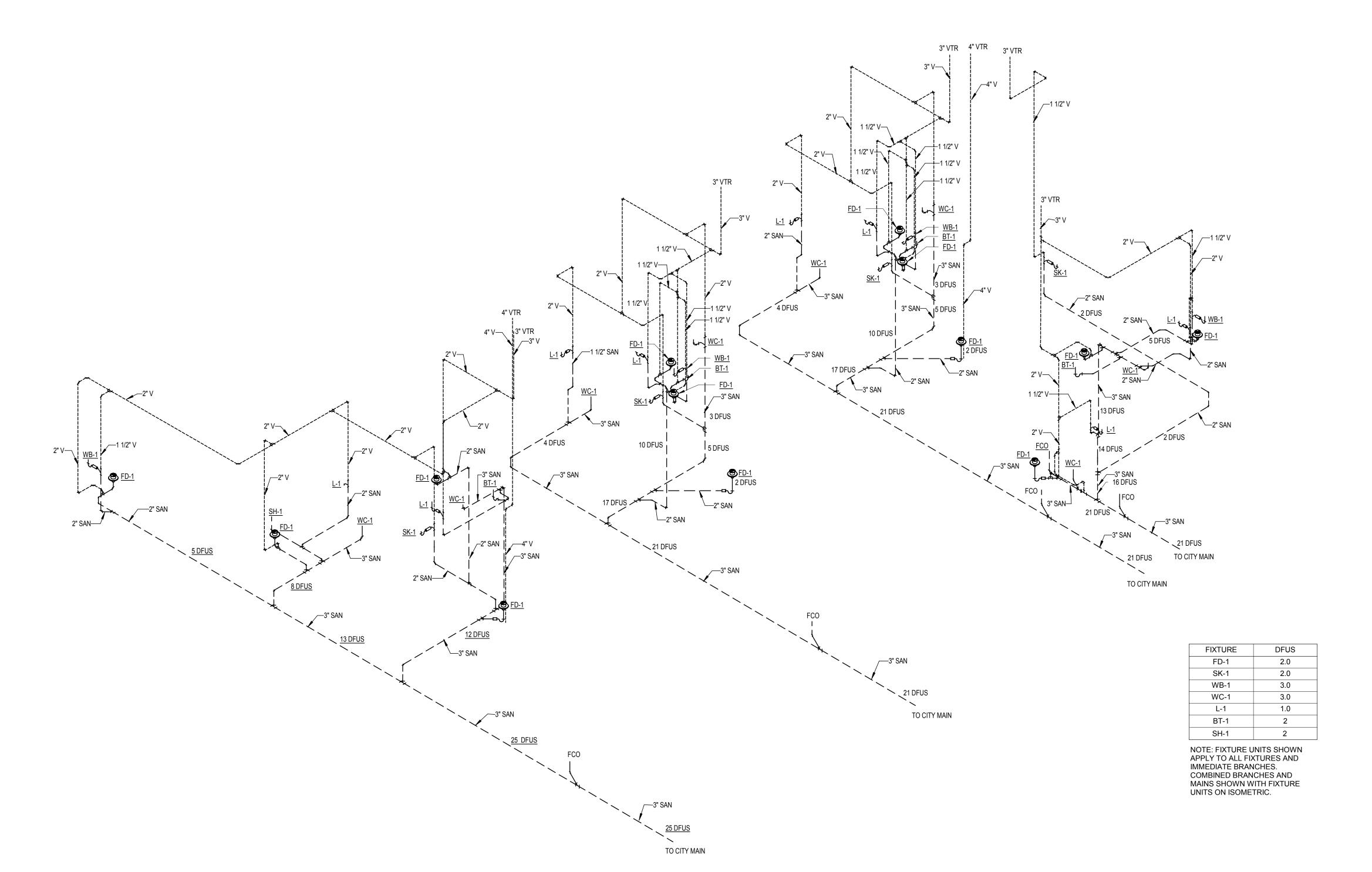
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PLUMBING SANITARY RISER -BUILDINGS A, B, & C

P301A



PLUMBING SANITARY RISER - BUILDING D

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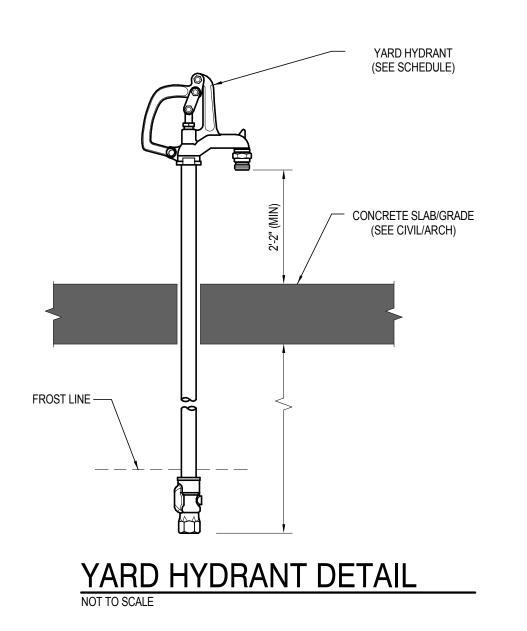
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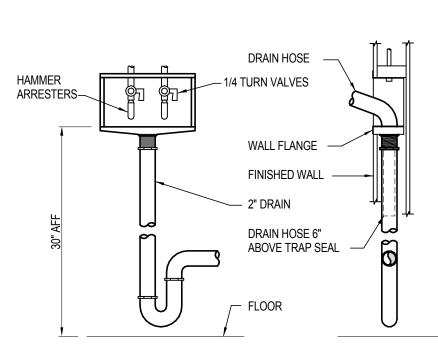
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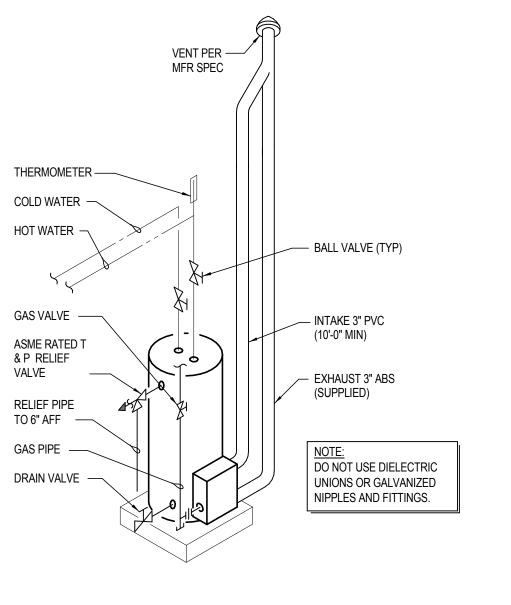
PLUMBING SANITARY RISER -BUILDING D

P301B



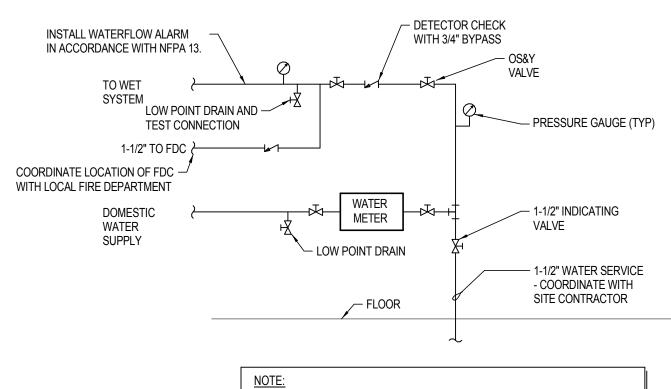






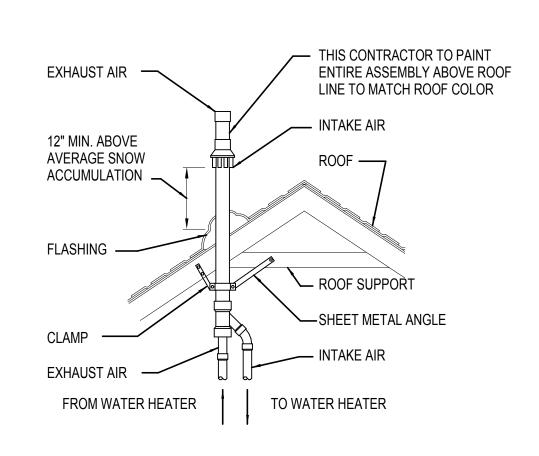
2 GAS WATER HEATER DETAIL

NOT TO SCALE

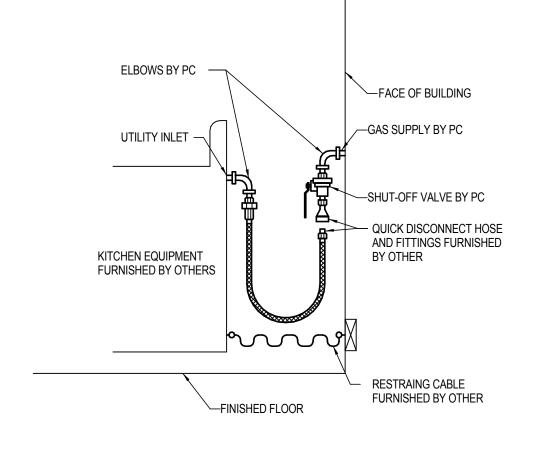


NOTE:
ALL SPRINKLER MATERIALS & INSTALLATION SHALL COMPLY WITH NFPA
13R, STATE, & LOCAL CODES. FIRE SPRINKLER CONTRACTOR SHALL BE
RESPONSIBLE FOR OBTAINING HIS OWN FLOW READINGS FOR PURPOSE
OF DESIGN. CONTRACTOR TO VERIFY FLOW; SIZE & SPACING
REQUIREMENTS TO DETERMINE ADEQUATE SERVICE. SUBMIT DRAWINGS
FOR APPROVAL PRIOR TO STARTING CONSTRUCTION.

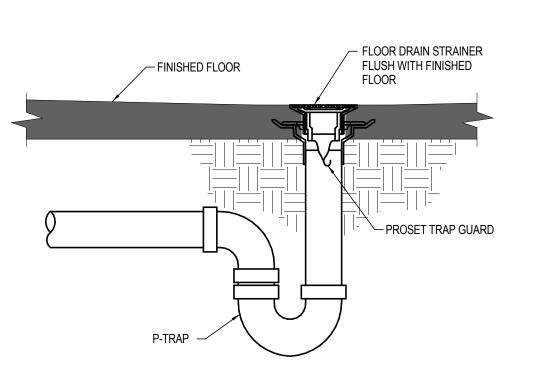
1 COMBINED WATER/FP SERVICE DETAIL
NOT TO SCALE



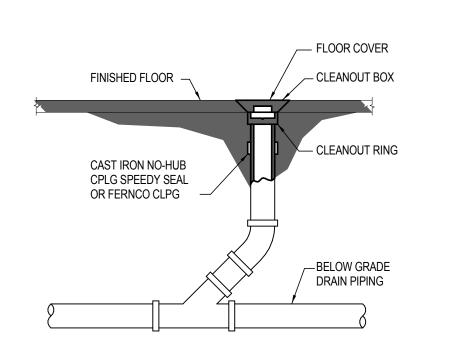
8 WATER HEATER VENT TERMINATION DETAIL
NOT TO SCALE



7 GAS QUICK CONNECT DETAIL
NOT TO SCALE



6 FLOOR DRAIN DETAIL
NOT TO SCALE



5 INTERIOR CLEANOUT DETAIL
NOT TO SCALE

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	and Vame
Signature:	) ( )
Print Names: La	Nemer Nemer
Date: 06/21/201	7 License No: 21157
ISSUE	
MARK DATE	DESCRIPTION
PROJECT NO.	
PROJECT NO.	M10.17.02
PROJECT PHASE	4000/ OD 1001/E
	100% CD ISSUE
DRAWN BY: BTB	CHECKED BY: LJN
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PLUMBING DETAILS

P400

				PLUI	MBING F	IXTURE	SCHEDU	LE
TAG	MANUFACTURER	SERIES	DESCRIPTION	COLD WATER CONN (INCH)	HOT WATER CONN (INCH)	SANITARY CONN (INCH)	VENT CONN (INCH)	NOTES
SK-1	-	-	SS DOUBLE BOWL TYPE KITCHEN SINK	3/4"	3/4"	1-1/2"	1-1/2"	PROVIDE TAMPER RESISTANT AERATOR ON FAUCET.
L-1	-	-	WHITE VITREOUS CHINA, SINGLE BOWL LAV	3/4"	3/4"	1-1/2"	1-1/2"	PROVIDE TAMPER RESISTANT AERATOR ON FAUCET.
WC-1	NIAGARA	STEALTH	FLOOR MOUNTED, TANK TYPE	3/4"	-	3"	2"	-
FD-1	ZURN	Z415B	ROUND FLOOR DRAIN	-	-	2"	1-1/2"	INCLUDE POLISHED NICKEL BRONZE TOP
WB-1	GUY GRAY	MWB	WASHING MACHINE OUTLET BOX	3/4"	3/4"	2"	1-1/2"	WHITE POWDER COATED METAL OUTLET BOX. SUPPLY WITH 1/2" QUARTER TURN VALVES AND 2" DRAIN KIT.
3T-1	-	-	-	-	-	-	-	-
WH-1	BRADFORD WHITE	RG2PDV40S6N	POWER DIRECT VENT GAS WATER HEATER	3/4"	3/4"	-	-	1/2" NPT NATURAL GAS CONNECTION. 3" VENT PIPE. PROVIDE 3" CONCENTRIC VENT TERMINATION KIT.
VH-1	WOODFORD	65	ANTI-SIPHON FREEZELESS WALL HYDRANT	3/4"	-	-	-	STANDARD CHROME FINISH. INSTALL 18" ABOVE FINISHED GRADE. LOOSE KEY OPERATION.
/H-1	WOODFORD	Y34	FREEZELESS YARD HYDRANT	3/4"	-	-	-	MIN 5' BURY DEPTH.
CO-1	ZURN	Z1400	INTERIOR FLOOR CLEANOUT	-	-	-	-	INSTALL AS PER FINISHED FLOOR REQUIREMENTS WITH NO-HUB COUPLING, VANDAL PROOF SCREWS, AND POLISHED NICKEL BRONZE

NOTES:

1. CONNECTION SIZES NOTED ARE NOT FINAL EQUIPMENT FIXTURE SIZE, BUT RATHER SIZE OF PIPE TO BE BROUGHT TO FIXTURE IMMEDIATELY PRIOR TO FINAL CONNECTION.

2. FLOOR DRAIN VENT SHALL BE 2" IF BELOW GRADE.

		EDROO D TABL	
EQUIPMENT	INPUT(BTU)	REQUIRED PRESSURE	SYSTEM PRESSURE
GWH-1	40,000	4" W.C.	2 PSI
F-1/F-2	40,000	4.5" - 10" W.C.	2 PSI
RANGE	52,000	6" - 13" W.C.	2 PSI
DRYER	20,000	-	2 PSI
TOTAL LOAD PER UNIT	152,000 BTU'S		

	4 BEDROOM GAS LOAD TABLE								
EQUIPMENT	INPUT(BTU)	REQUIRED PRESSURE	SYSTEM PRESSURE						
GWH-1	40,000	4" W.C.	2 PSI						
F-3	80,000	4.5" - 10" W.C.	2 PSI						
RANGE	52,000	6" - 13" W.C.	2 PSI						
DRYER	20,000	-	2 PSI						
TOTAL LOAD PER UNIT	192,000 BTU'S								

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Ciana	atura.	Jan Noma
Signa	Names: Larr	Nemer
Date:	06/21/2017	License No: 21157
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MARK	DATE	DESCRIPTION

ISSUE		
MARK	DATE	DESCRIPTION
PROJI	ECT NO.	N440 47 00
		M10.17.02
PROJI	ECT PHASE	
		100% CD ISSUE

CHECKED BY: LJN DRAWN BY: BTB

PLUMBING SCHEDULES

P500

# GENERAL MECHANICAL NOTES

- 1. ALL WORK SHALL BE IN COMPLIANCE WITH STATE AND LOCAL CODES.
- 2. THE CONTRACTOR SHALL PAY FOR ALL FEES, PERMITS, LICENSES, ETC., NECESSARY FOR PROPER COMPLETION OF THE WORK.
- 3. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- 4. VERIFY ALL EXISTING CONDITIONS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN CONTRACT DRAWINGS AND ACTUAL CONDITIONS.
- 5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. ADDITIONAL DATA SHALL BE FROM THE ENGINEER THROUGH WRITTEN CLARIFICATION ONLY. VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS BEFORE PROCEEDING WITH ANY PORTION OF ANY WORK. THE CONTRACTOR SHALL PROVIDE ALL OFFSETS AND TRANSITIONS REQUIRED TO MEET EXISTING CONDITIONS.
- 6. THE CONTRACTOR SHALL PERFORM WORK IN A SKILLED AND PROFESSIONAL MANNER.
- 7. ALL CONTRACTORS ARE RESPONSIBLE TO FIELD COORDINATE WORK SCHEDULE WITH OWNER REPRESENTATIVE.
- 8. THE CONTRACTOR SHALL WORK AND COORDINATE WITH THE OTHER TRADES.
- 9. ALL EQUIPMENT SHALL BE NEW AND IN UNDAMAGED CONDITION. ANY EQUIPMENT FOUND DEFECTIVE SHALL BE IMMEDIATELY REMOVED FROM THE PROJECT AND REPLACED AT CONTRACTOR'S EXPENSE.
- 10. DUCT MATERIAL SHALL BE GALVANIZED OR ALUMINUM CONSTRUCTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD 2005 AND SMACNA HVAC AIR DUCT LEAKAGE MANUAL 2012 FOR THE PRESSURE AND SEAL CLASS LISTED IN THE PROJECT DUCTWORK/INSULATION SCHEDULE.
- 11. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INTERIOR DIMENSIONS.
- 12. PROVIDE VOLUME CONTROL DAMPERS WHERE INDICATED AND AT ALL TAKEOFFS, BOTH SUPPLY AND RETURN SYSTEMS, AND MAJOR DUCT RUNS. DAMPERS SHALL BE FACTORY-FABRICATED WITH ZINC-PLATED, DIE-CAST CONTROL HARDWARE. CONTROL HARDWARE SHALL INCLUDE HEAVY GAUGE DIAL AND HANDLE WITH ELEVATED PLATFORM FOR INSULATED DUCT MOUNTING.
- 13. ALL RECTANGULAR MAIN TO RECTANGULAR BRANCH CONNECTIONS, BOTH CONVERGING AND DIVERGING CONFIGURATIONS, SHALL HAVE A 45 DEG. ENTRY TAP CONSTRUCTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD 2005 FIG. 4-6.
- 14. MECHANICAL CONTRACTOR TO REPAIR ANY DAMAGE DONE TO THE FIRE PROOFING WHILE INSTALLING THE MECHANICAL TRADES. SEAL ALL PENETRATIONS THROUGH RATED STRUCTURES WITH UL LISTED FIRE SEAL DESIGNED FOR THE SPECIFIED APPLICATION.
- 15. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
- 16. THE CONTRACTOR SHALL GUARANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR AS OTHERWISE REQUIRED IN THE SPECIFICATIONS.
- 17. MECHANICAL CONTRACTOR TO INCLUDE THE TEST AND BALANCE, AND ANY PERMIT FEES IN
- 18. UPON PROJECT COMPLETION, RECORD (AS-BUILT) DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE OWNER AND ENGINEER. ALL CHANGES IN PIPING AND DUCTWORK ARRANGEMENTS SHALL BE NOTED ON THE RECORD DRAWINGS.

### MECHANICAL HVAC LEGEND EXHAUST AIR DUCT (DOWN) SUPPLY AIR CEILING DIFFUSER $\searrow$ EXHAUST AIR DUCT (UP) RETURN AIR GRILLE RETURN AIR DUCT (DOWN) RETURN AIR DUCT (UP) EXHAUST AIR GRILLE $\searrow$ OUTSIDE OR SUPPLY DIFFUSER, GRILLE, AND REGISTER CALL-OUTS AIR DUCT (UP) CALL-OUT OR CALL-OUT CFM OUTSIDE OR SUPPLY ><[] AIR DUCT (DOWN) MANUAL BALANCING DAMPER 24x12 DUCT SIZE NEW DUCTWORK THERMOSTAT

# MECHANICAL CHEET INDEV

	MECHANICAL SHEET INDEX
M000	MECHANICAL TITLE SHEET
M101A	MECHANICAL PLANS - BUILDINGS A, B, & C
M101B	MECHANICAL PLANS - BUILDING D
M400	MECHANICAL DETAILS AND SECTIONS
M500	MECHANICAL SCHEDULES

# **ABBREVIATIONS**

ADD ADDENDUM ADDL ADDITIONAL ADJ ADJUSTABLE AFF ABOVE FINISH FLOOR AFG ABOVE FINISH GRADE

A AMP

AI ANALOG INPUT ALT ALTERNATE AO ANALOG OUTPUT APPRX APPROXIMATE ARCH ARCHITECT, ARCHITECTURAL

BDD BACK DRAFT DAMPER BLDG BUILDING

BI BLACK IRON BOD BOTTOM OF DUCTWORK BOP BOTTOM OF PIPE BOT BOTTOM

BSMT BASEMENT BTUH BRITISH THERMAL UNIT PER HOUR BTWN BETWEEN

C CENTER CD CEILING DIFFUSER CFM CUBIC FEET PER MINUTE CHAR CHARACTERISTICS CI CAST IRON CIRC CIRCUIT

CL OR ™ CENTERLINE CLR CLEAR CO CLEAN OUT CONC CONCRETE

> DB DRY BULB DEG DEGREE DEPT DEPARTMENT DET DETAIL

CONT CONTINUOUS

CW COLD WATER

DI DIGITAL INPUT DIA DIAMETER DIM DIMENSION DN DOWN DO DIGITAL OUTPUT

DWG DRAWING EA EXHAUST AIR EAT ENTERING AIR TEMPERATURE EC ELECTRICAL CONTRACTOR

EF EXHAUST FAN EG EXHAUST GRILLE EL ELEVATION ELEC ELECTRICAL

EQ EQUAL EQUIP EQUIPMENT ESP EXTERNAL STATIC PRESSURE EST ESTIMATE OR ESTIMATED

FA FRESH AIR FCO FLOOR CLEANOUT FD FLOOR DRAIN

FLR FLOOR FPM FEET PER MINUTE FT FOOT (FEET) FURN FURNACE

GA GAUGE/GAGE GAL GALLON GALV GALVANIZED GC GENERAL CONTRACTOR GPM GALLONS PER MINUTE

GYP GYPSUM HB HOSE BIB HORIZ HORIZONTAL HP HORSEPOWER HT HEIGHT HW HOT WATER

I/O INPUT/OUTPUT IE INVERT ELEVATION IN INCH INSUL INSULATION J-BOX JUNCTION BOX LAT LEAVING AIR TEMPERATURE LB POUND

LOC LOCATION LV LOW VOLTAGE

MAX MAXIMUM MBH 1000 BTU PER HOUR MC MECHANICAL CONTRACTOR MCA MINIMUM CIRCUIT AMPS MECH MECHANICAL

MFR MANUFACTURER NFC NOT FOR CONSTRUCTION NIC NOT IN CONTRACT

OA OUTSIDE AIR OC ON CENTER OPNG OPENING

MIN MINIMUM

OPP OPPOSITE PC PLUMBING CONTRACTOR

NTS NOT TO SCALE

PERP PERPENDICULAR PLBG PLUMBING PNL PANEL PPH POUNDS PER HOUR PRES PRESSURE

PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PSIG POUNDS PER SQUARE INCH GAUGE PWR POWER

QTY QUANTITY

R RADIUS RA RETURN AIR REL RELIEF REQD REQUIRED REV REVERSE OR REVISION

RG RETURN AIR GRILLE RPM REVOLUTIONS PER MINUTE SA SUPPLY AIR

SAN SANITARY SCH SCHEDULE SECT SECTION SEP SEPARATOR SF SQUARE FEET

SG SUPPLY GRILLE SHT SHEET SHWR SHOWER SIM SIMILAR SP STATIC PRESSURE

SPEC SPECIFICATIONS

SQ SQUARE T&B TEST AND BALANCE T&P TEMPERATURE AND PRESSURE RELIEF VALVE

TEMP TEMPERATURE OR TEMPORARY TYP TYPICAL

UNO UNLESS NOTED OTHERWISE V VOLT VAR VARIABLE OR VARIES

VEL VELOCITY VERT VERTICAL VFD VARIABLE FREQUENCY DRIVE VOL VOLUME VTR VENT THRU ROOF

W/ WITH W/IN WITHIN W/O WITH OUT WB WET BULB WC WATER COLUMN (INCHES OF)

WG WATER GAUGE WP WEATHER PROOF

WP WORKING PRESSURE WT WEIGHT

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'ERVIEW OLIS, MN

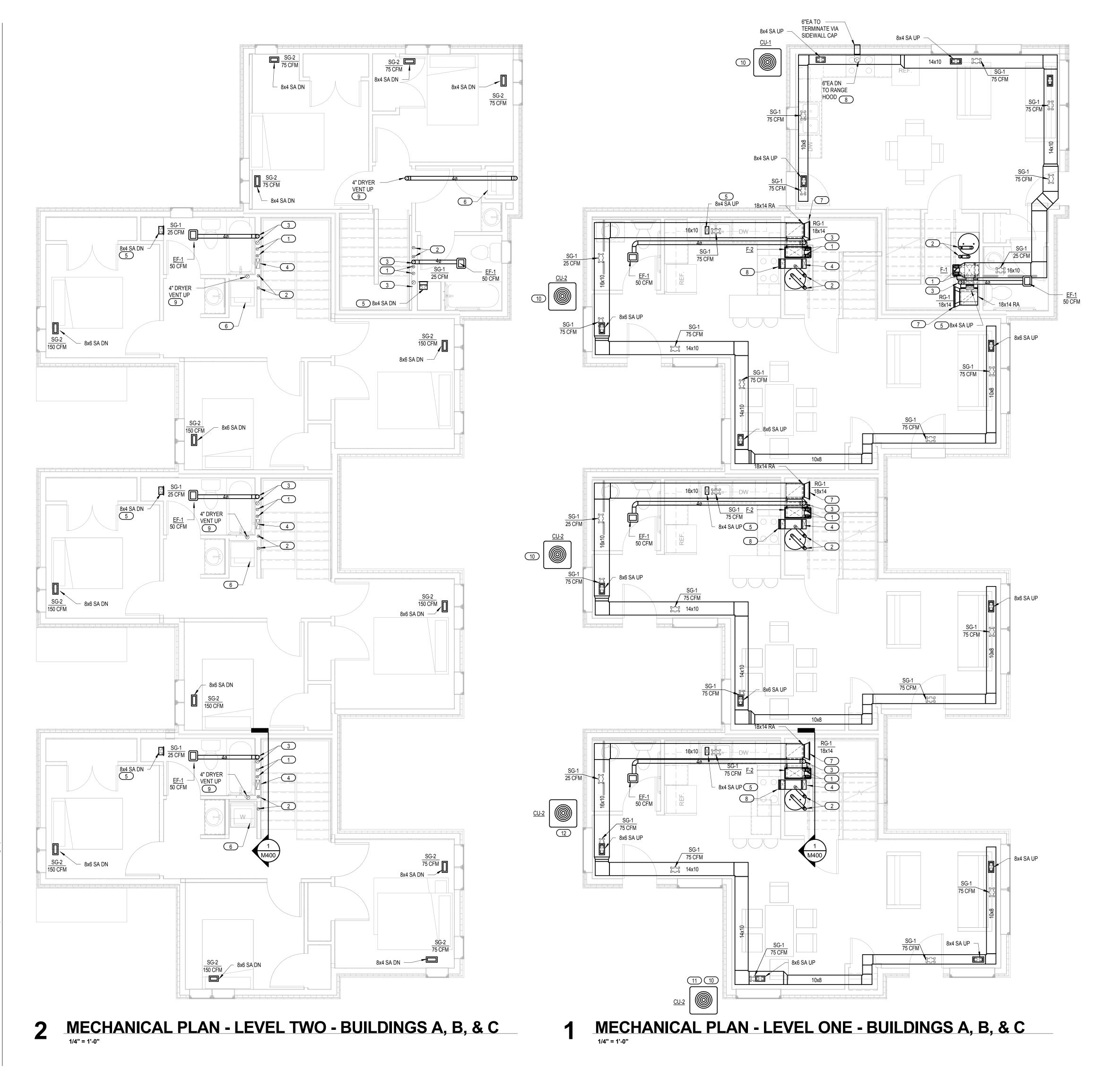
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MECHANICAL TITLE SHEET

BTB

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**GENERAL NOTES** 

REFER TO M000 FOR ADDITIONAL NOTES, SYMBOLS, AND

ABBREVIATIONS.

# KEYED NOTES

- 1 FURNACE 3" COMBUSTION AIR AND FLUE UP. COMBUSTION AIR AND FLUE DUCTS TO CONNECT IN ATTIC SPACE FOR INSTALLATION OF CONCENTRIC VENT ADAPTER.
- 2 WATER HEATER 3" COMBUSTION AIR AND FLUE UP. COMBUSTION AIR AND FLUE DUCTS TO CONNECT IN ATTIC SPACE FOR INSTALLATION OF CONCENTRIC VENT ADAPTER.
- 3 4" BATHROOM EXHAUST UP. BATHROOM EXHAUST SHALL TERMINATE VIA ROOF CAP WITH BACK DRAFT DAMPER.
- 4 10x3-1/4" RANGE HOOD EXHAUST DUCT UP. INSTALL MANUFACTURER PROVIDED 10x3-1/4" TO 6" DIAMETER ADAPTER IN ATTIC AND TERMINATE VIA ROOF CAP.
- 5 DUCT TO RISE UP THROUGH FLOOR INTO SOFFIT ABOVE. GRILLE SHALL BE INSTALLED AT SOFFIT FACE 6" AFF.
- 6 DRYER PROVIDED BY OTHERS. CONNECT DUCTWORK TO DRYER AS REQUIRED. COORDINATE WITH OTHER TRADES.
- 7 RETURN GRILLE SHALL BE INSTALLED ON STAIR LANDING WALL A MINIMUM OF 4" ABOVE STAIR LANDING.
- 8 RANGE HOOD PROVIDED BY OTHERS. CONNECT DUCTWORK TO HOOD AS REQUIRED. COORDINATE WITH OTHER TRADES.
- 9 DRYER VENT SHALL TERMINATE VIA ROOF CAP.
- 10 CONDENSING UNIT IS TO SIT ON CONCRETE PAD.
- 11) BUILDING A AND C: CONDENSING UNIT SHALL BE LOCATED HERE.

  12) BUILDING B: CONDENSING UNIT SHALL BE LOCATED HERE.

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Signature:

Print Names: Larry Nemer

Date: 06/21/2017 License No: 21157

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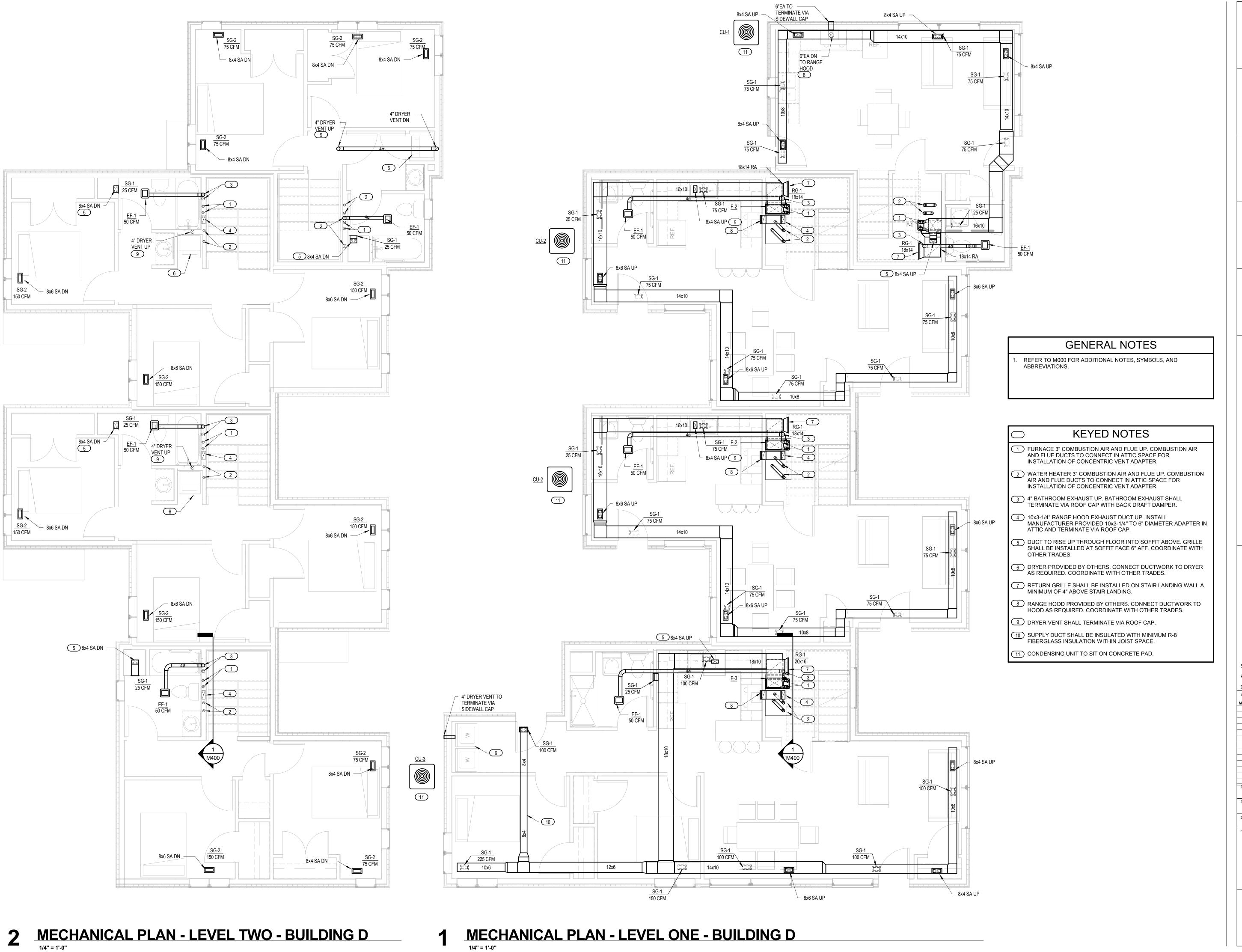
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LJN

MECHANICAL PLANS - BUILDINGS A, B, & C

M101A



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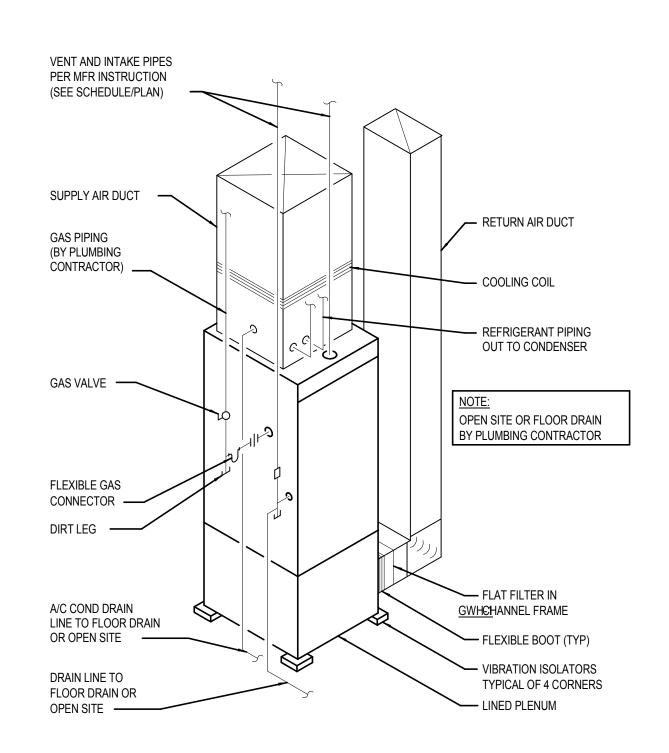
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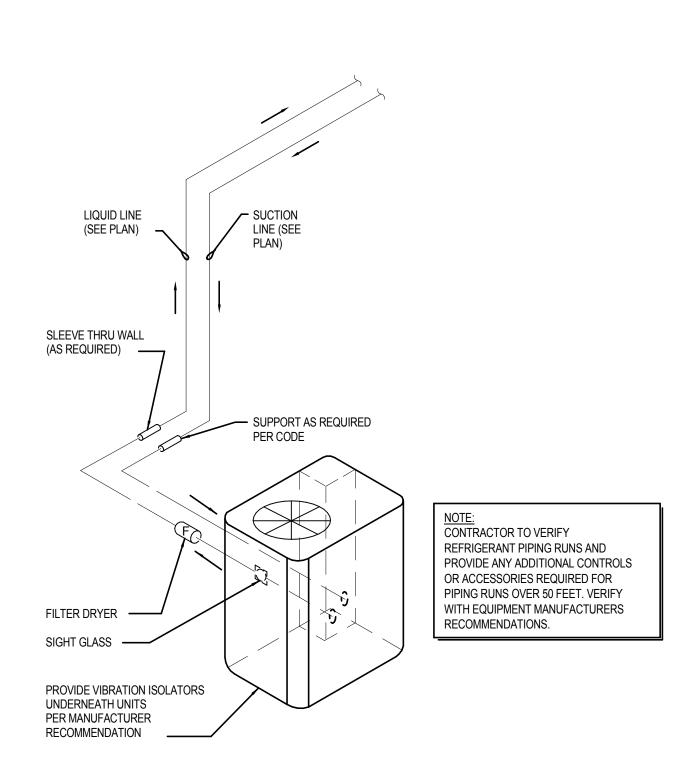
**MECHANICAL** PLANS - BUILDING

ВТВ

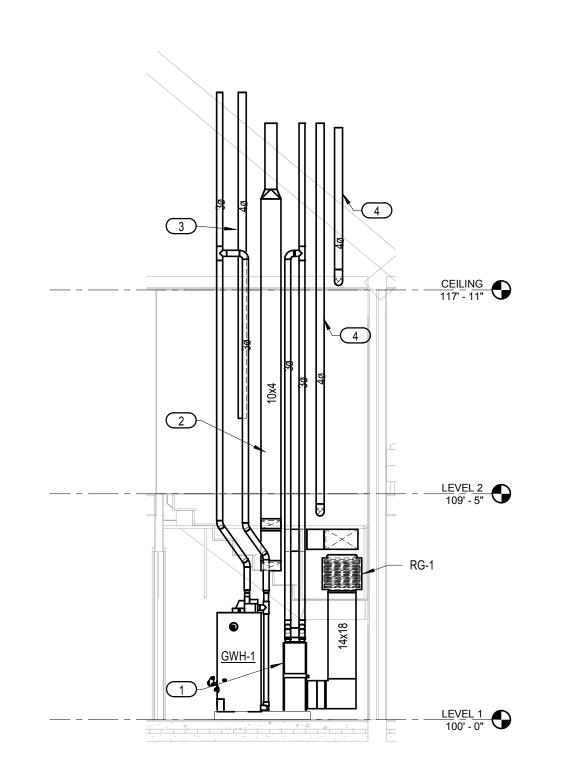
M101B



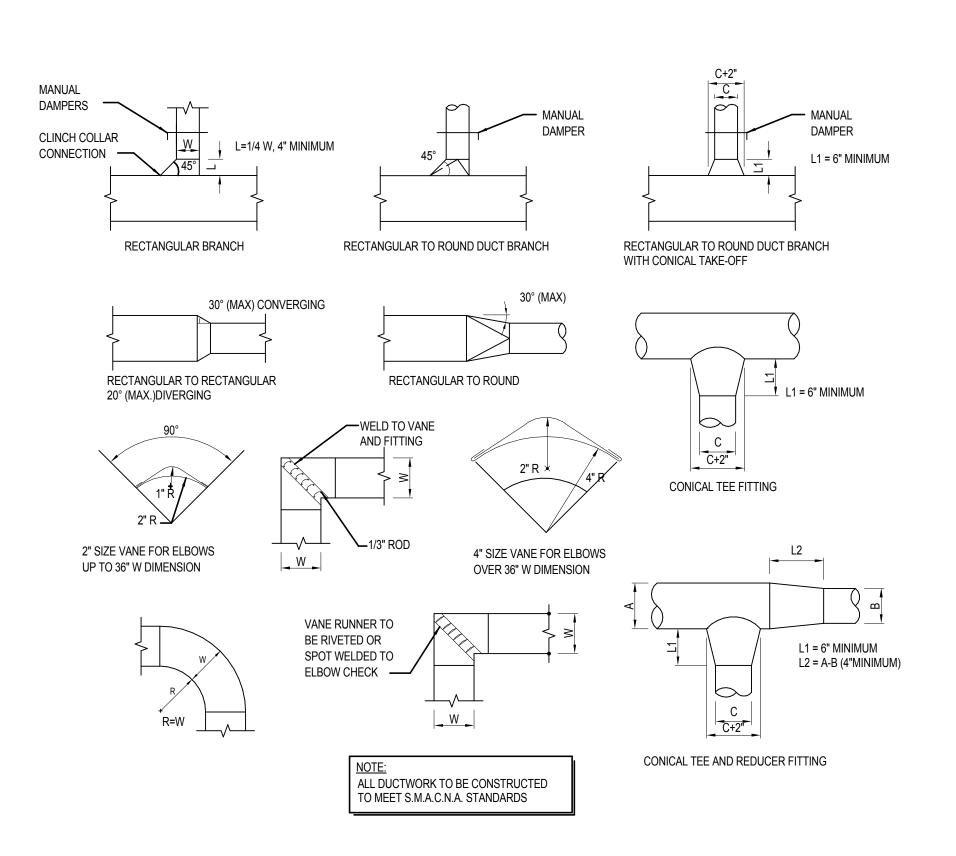
2 GAS FURNACE DETAIL
NOT TO SCALE



5 CONDENSING UNIT PIPING DETAIL
NOT TO SCALE

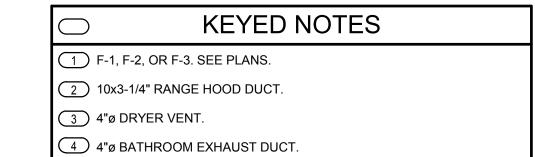


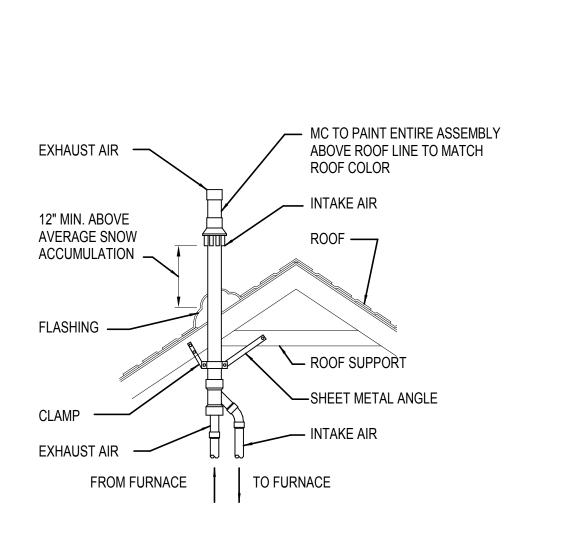
# MECHANICAL ROOM SECTION (TYP) 1/4" = 1' - 0"



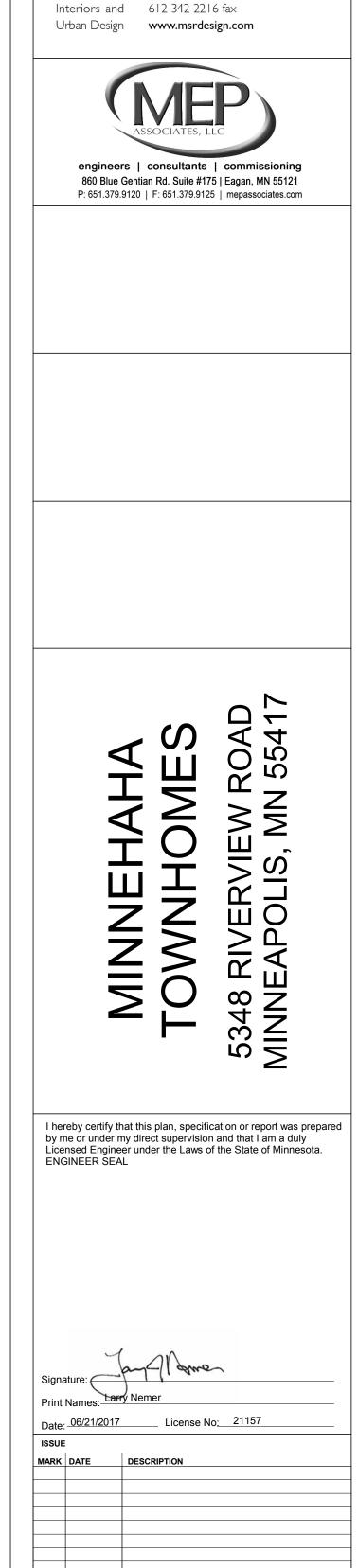
4 TYPICAL DUCTWORK DETAILS

NOT TO SCALE





3 FURNACE VENT TERMINATION DETAIL
NOT TO SCALE



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M400

**DETAILS AND** 

SECTIONS

							GA	\S F	URN	ACE S	CHE	DUL	E										
F				HEATING							COOLING	i			E	BLOWER	}						
#	TYPE	LOW-FIRE INPUT (MBH)	LOW-FIRE OUTPUT MBH	HIGH-FIRE INPUT MBH	HIGH-FIRE OUTPUT MBH	AFUE	C.F.M.	EXT. S.P.	TOTAL MBH	SENSIBLE MBH	SEER	EER	C.F.M.	EXT. S.P.	RPM	H.P.	ELEC. CHAR	UNIT AMPS	MOP	VENT	FILTER	MANUFACTURER & MODEL NO.	NOTES
1	GAS-FIRED	28	26.8	40	38.4	96	725	0.5	24	19	16	13	725	0.5	1075	1/2	120/1/60	8	15	3"	25x16	GOODMAN GMVC960403BNA	1-4
2	GAS-FIRED	28	26.8	40	38.4	96	950	0.5	24	19	16	13	950	0.5	1075	1/2	120/1/60	8	15	3"	25x16	GOODMAN GMVC960403BNA	1-4
3	GAS-FIRED	56	53.7	80	76.8	96	1150	0.5	35	26.2	16	13	1150	0.5	1075	3/4	120/1/60	10.6	15	3"	25x16	GOODMAN GMVC960402CNA	1-4

PROVIDE CONCENTRIC VENT. INSTALL PER MANUFACTURER INSTRUCTIONS. PROVIDE ISOLATION PADS PER MANUFACTURER'S RECOMMENDATIONS.

PROVIDE WITH COMFORTNET CONTROL SYSTEM.

PROVIDE DRIP PAN AND ROUTE CONDENSATE DRAIN TO FLOOR DRAIN IN MECHANICAL ROOM.

INSTALL PER MFR RECOMMENDATION.

						CO	NDEN	SING U	NIT SCHED	ULE			
CU				CO	ONDENSING U	NIT				EVAPOR <i>A</i>	ATOR COIL		
#	NOMINAL TONNAGE	ELEC. CHAR	MCA	MOP	S.E.E.R.	FAN MOTOR	LIQUID LINE SIZE	SUCTION LINE SIZE	MANUFACTURER & MODEL NO.	CFM	S.P.	MANUFACTURER & MODEL NO.	NOTES
1	2	208/1/60	15.7	20	16	1/6	3/8" O.D.	3/4" O.D.	GOODMAN DSXC160241	810	0.2	GOODMAN CAPF3636B6	1-4
2	2	208/1/60	15.7	20	16	1/6	3/8" O.D.	3/4" O.D.	GOODMAN DSXC160241	810	0.2	GOODMAN CAPF3636B6	1-4
3	3	208/1/60	21.8	35	16	1/6	3/8" O.D.	7/8" O.D.	GOODMAN DSXC160361	1,125	0.25	GOODMAN CAPF4961C6	1-4

PROVIDE CONCRETE PAD FOR CONDENSING UNIT.
PROVIDE TXV-30 FOR TWO TON UNITS AND TXV-42 FOR THREE TON UNIT.

REFRIGERANT SHALL BE R-410A. INSTALL PER MFR RECOMMENDATION.

	GRILLE, REGISTER, AND DI	FFUSER SCHE	DULE		
PLAN SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NO.	MATERIAL	FINISH	NOTES
SG-1	8x4 FACE, TWO-WAY DEFLECTION BLADES, 40° FIXED DEFLECTION, 1/2" BLADE SPACING, MULTI-SHUTTER DAMPER	HART AND COOLEY 682	ALUMINUM	-	1, 2
SG-2	8x6 FACE, SINGLE DEFLECTION BLADES, 1/2" BLADE SPACING, TOE OPERATED DAMPER	HART AND COOLEY 210	ALUMINUM	-	1, 2
RG-1	SEE PLANS FOR SIZE, SINGLE DEFLECTION BLADES, 45° FIXED DEFLECTION, 1/2" BLADE SPACING, HORIZONTAL BLADES	PRICE 535S	ALUMINUM	-	1, 2
_	HITECT TO SELECT FINISH. ALL PER MFR RECOMMENDATIONS.				

				E	ΧHΑ	US	ΓFAN	SCHEDULE			
EF #	LOCATION	SYSTEM	LOW CFM	HIGH CFM	SP (IN)	RPM	ELECTRICAL CHAR	FAN TYPE	INTERLOCK/CONTROL	MANUFACTURER & MODEL NO.	NOTES
1	SEE PLAN	BATHROOM EXHAUST	30	50	0.25	1072	120/60/1	CEILING MOUNTED	MULTI-SPEED WITH TIME DELAY	PANASONIC FV-05-11VK1	1-4
NOTES:											

PROVIDE FV-VS15VK1 MULTI-SPEED WITH TIME DELAY. PRE-SET LOWER LEVEL OF 30 CFM. MAX LEVEL OPERATION OF 50 CFM WHEN WALL SWITCH IS TURNED ON.

USER TO PRESET HIGH/LOW DELAY TIMER TO RETURN TO LOWER CFM LEVEL.
PROVIDE BACK DRAFT DAMPER AT ROOF CAP.
INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

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DRAWN BY: BTB

MECHANICAL SCHEDULES

	GENERAL ELECTRICAL NOTES
1.	ALL WORK SHALL BE IN CONFORMANCE WITH NATIONAL, STATE, AND LOCAL CODES AND/OR ORDINANCES.
2.	ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER CONTRACTORS & LOCAL UTILITY. E.C. SHALL CONTACT LOCAL UTILITY FOR EXACT SERVICE REQUIREMENTS TO INCLUDE BUT NOT LIMITED TO TRANSFORMER, METERING AND CABLING. LOCAL UTILITY REQUIREMENTS SUPERSEDE DRAWINGS AND SPECIFICATIONS.
3.	SEE ARCHITECTURAL, MECHANICAL, & PLUMBING DRAWINGS FOR ADDITIONAL REQUIREMENTS.
4.	ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO GIVE APPROXIMATE LOCATIONS AND OVERALL DESIGN INTENT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCTS, MATERIALS, AND ELECTRICAL METHODS WHICH HAVE NOT BEEN SHOWN OR INDICATED BUT ARE REQUIRED FOR A COMPLETE SYSTEM TO THE STANDARDS OF THE INDUSTRY.
5.	INSTALL LIGHTING FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTING DEVICES FOR ADEQUATE SUPPORT OF FIXTURES FROM STRUCTURE.
6.	UPON COMPLETION OF THE ELECTRICAL WORK, THE INSTALLATION SHALL BE TESTED FOR CONTINUITY, GROUNDS, AND SHORT CIRCUITS. THE ELECTRICAL CONTRACTOR SHALL DEMONSTRATE PROPER PERFORMANCE OF ALL SYSTEMS. ALL DEFECTIVE WORK OR MATERIALS SHALL BE REPLACED OR REPAIRED AS NECESSARY AND RETESTED.
7.	ELECTRICAL RACEWAYS THAT PENETRATE FIRE RATED ASSEMBLIES SHALL BE SLEEVED AND SEALED AS PER THE LOCAL BUILDING CODE.
8.	THE ELECTRICAL CONTRACTOR SHALL PROVIDE A TEMPORARY ELECTRICAL SYSTEM FOR THE PROJECT. AT LEAST ONE 120 VOLT SINGLE PHASE RECEPTACLE SHALL BE PROVIDED FOR EACH 500 SQUARE FEET OF FLOOR SPACE. SUFFICIENT TEMPORARY LIGHTING SHALL BE PROVIDED TO ALLOW ALL CONTRACTORS TO COMPLETE THEIR WORK. TEMPORARY ELECTRICAL CIRCUITS SHALL BE EQUIPPED WITH COMBINATION GROUND FAULT INTERRUPTER AND CIRCUIT BREAKER PER NEC. TEMPORARY ELECTRICAL SYSTEM SHALL BE INCLUDED IN THIS BID. USAGE CHARGES SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
9.	ELECTRICAL DEVICES/EQUIPMENT SHOWN AS DASHED AND BOLD ARE EXISTING TO BE REMOVED, ELECTRICAL DEVICES/EQUIPMENT SHOWN AS LIGHT AND SOLID ARE EXISTING TO REMAIN, AND ELECTRICAL DEVICES/EQUIPMENT SHOWN AS BOLD AND SOLID SHALL BE NEW.
10	ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND SCHEDULING OF REQUIRED ELECTRICAL INSPECTIONS.

	ELECTRICAL	SYMBOLS		ELECTRICAL ABBREVIATIONS				
	RECEPTACLES		LIGHTING	AC	ABOVE COUNTERTOP	MC	MECHANICAL CONTRACTOR	
φ	20A, 120V, 2P, 3W GROUNDING DUPLEX RECEPTACLE	A FIXTURE 1	YPE PER SCHEDULE  TROFFER STYLE FIXTURE, TYPE AS NOTED	AFF	ABOVE FINISH FLOOR	MCA	MINIMUM CIRCUIT AMPS	
Φ	DUPLEX RECEPTACLE	SWITCH LEGS	THOTTEN THE FIXTURE, THE FRONT ES	AFG	ABOVE FINISH GRADE	MDP	MAIN DISTRIBUTION PANEL	
Φ	- (1 SWITCHED & 1 UNSWITCHED) SINGLE-PLEX RECEPTACLE			ANN	C ANNUNICIATOR	MTD	MOUNTED	
	QUADPLEX RECEPTACLE		FIXTURE ON EMERGENCY POWER	CC	CONTROLS CONTRACTOR	OCC	OCCUPANCY	
	GFCI RECEPTACLE	<b>⊢⊸</b>	STRIP LIGHT / SUSPENDED DIRECT/INDIRECT	EC	ELECTRICAL CONTRACTOR	PC	PLUMBING CONTRACTOR	
	RECEPTACLE MTD. 6" ABOVE	0	SURFACE MTD FIXTURE	EX	EXISTING	PNL	PANEL	
	COUNTER OR HGT SHOWN	<u></u>	TRACK LIGHTING	EXR		SPST	SINGLE POLE SINGLE THROW	
$\bigcap_{\cong}$	TAMPER RESISTANT RECEPTACLE	<b>─</b>	PENDANT/SURFACE MTD UP/DOWN LIGHT	GC	GENERAL CONTRACTOR	WP	WEATHER PROOF	
	WEATHER-PROOF GFCI RECEPTACLE	<b>\$</b>	RECESSED/DOWNLIGHT FIXTURE	GFC		20A	20 AMP	
	QUADPLEX FLOORBOX	<b>↓</b>	ACCENT FIXTURE	IBC	INTERNATIONAL BUILDING CODE	3W	3 WIRE	
⊢© C	120V, 15A CLOCK OUTLET  OMMUNICATIONS	÷	WALL MOUNTED FIXTURE	IG	ISOLATED GROUND	20/1	20 AMP, SINGLE PHASE	
	SURFACE MOUNTED RACEWAY	_ <u>``</u>	EXIT SIGN (ARROWS INDICATED AS SHOWN)	HP	HORSEPOWER			
	WITH DEVICES AS NOTED TELEPHONE		- (SHADING INDICATES # OF FACES)	LV	LOW VOLTAGE			
¥ ¥	TELEPHONE/DATA		CLG MTD EMERGENCY FIXTURE		20W YOLMOL			
T Y	DATA ONLY		EMERGENCY FIXTURE  COMBO EMERGENCY/EXIT LIGHT					
<b>▼ ▼ ∀</b>	COMMUNICATION DEVICE MTD. 6"		- (ARROW INDICATES DIRECTION) - (SHADING INDICATES # OF FACES)					
	ABOVE COUNTER OR HGT SHOWN	<b>├</b>	BOLLARD/SIDEWALK LIGHT					
WAP	WIRELESS ACCESS POINT	<b>人</b>	FLOOD LIGHT					
(SP)	CEILING MOUNTED SPEAKER	°-□	SINGLE HEAD FIXTURE/POLE					
HSP	WALL MOUNTED SPEAKER	□□	TWIN HEAD FIXTURE/POLE					
VC	SPEAKER VOLUME CONTROL		SWITCHING	-				
-{TV	TELEVISION OUTLET	\$	20A, 120/277V SPST SWITCH	7				
	PANEL BOARD	<b>\$</b> <sub>3</sub>	20A, 120/277V 3-WAY SWITCH					
	DISTRIBUTION PANEL BOARD	\$4	20A, 120/277V 4-WAY SWITCH					
СВ	SEPARATE CIRCUIT BREAKER	\$ <sub>DM</sub>	DIMMER SWITCH					
	UTILITY METER	<b>\$</b> ĸ	KEY OPERATED SWITCH					
	DISCONNECT	\$мс	MOMENTARY CONTACT SWITCH					
	FUSED DISCONNECT SWITCH	\$∟	LOW VOLTAGE SWITCH					
	EMERGENCY FUSED	\$то	THERMAL OVERLOAD SWITCH					
_	DISCONNECT SWITCH	\$ <sub>P</sub>	PILOT LIGHT					
	TRANSFORMER  MOTOR STARTER/CONTACTOR	(0S)	CEILING MTD OCC. SENSOR					
	COMBINATION MOTOR STARTER	<u>©</u>	PHOTOCELL	4				
	PUSH BUTTON STATION AS NOTED		FIRE ALARM	<del> </del>				
<b>1</b>	J-BOX	I	MANUAL PULL STATION 46" A.F.F. CENTER STROBE ONLY 84" A.F.F. TO CENTER					
FB	FLOOR BOX		15CD, 30CD, 75CD, 110CD					
ОВ	OVERHEAD BOX		HORN/STROBE 84" A.F.F. TO CENTER 15CD, 30CD, 75CD, 110CD					
P	PULL BOX, SIZE AS NOTED OR AS REQUIRED BY CODE	© ER	SMOKE DETECTOR					
	ELECTRICAL EQUIPMENT		- INDICATES ELEVATOR RECALL					
	CONNECTION	<b>(1)</b>	HEAT DETECTOR					
\( \sqrt{\sq}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}}	MOTOR CONNECTION	<b>©</b> FB <b>☑</b>	DUCT DETECTOR					
$\mathbb{X}$	CEILING FAN	Fs.	FIRE BARRIER CONNECTION  SPRINKLER FLOW SWITCH					
	CABLE TRAY RUN	Ts	TAMPER FLOW SWITCH					
	HOME RUN TO PANEL BOARD	DH	MAGNETIC DOOR HOLD					
		FACP	FIRE ALARM CONTROL PANEL					
		FAAP	FIRE ALARM ANNUNCIATOR PANEL					
				<u> </u>				
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# ELECTRICAL SHEET INDEX

E000 ELECTRICAL TITLE SHEET
E001 ELECTRICAL SITE PLAN
E100A ELECTRICAL POWER PLANS - BUILDINGS A, B, & C
E100B ELECTRICAL POWER PLANS - BUILDING D

E100B ELECTRICAL POWER PLANS - BUILDING D
E101A ELECTRICAL LIGHTING PLANS - BUILDINGS A, B, & C
E101B ELECTRICAL LIGHTING PLANS - BUILDING D
E400 ONE-LINE DIAGRAM & DETAILS
E500 ELECTRICAL SCHEDULES

MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282

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MARK DATE DESCRIPTION

PROJECT NO. M10.17.02 PROJECT PHASE

100% CD ISSUE DRAWN BY:

> ELECTRICAL TITLE SHEET

> > E000



ELECTRICAL SITE PLAN
1" = 30'-0"

KEYED NOTES

PROVIDE UNDERGROUND PVC CONDUIT FROM THIS LOCATION TO PULL BOX BY THE PROPERTY LINE FOR TELECOMMUNICATION AND CABLE UTILITY SERVICES. COORDINATE WITH TELECOMMUNICATION PROVIDER.

1 PROPOSED LOCATION OF ELECTRICITY METERS FOR THE FOUR UNITS. REFER TO ONE-LINE DIAGRAM.

3 PROVIDE GFCI RECEPTACLES AND (2) LIGHT FIXTURE TYPE F IN SHED

8 EXISTING LIGHT POLE SHALL BE REMOVED AND SALVAGED TO BE REUSED. REMOVE BRANCH CIRCUIT BACK TO THE LAST REMAINING LIGHT POLE.

 REINSTALL SALVAGED LIGHT POLE AT THIS LOCATION IN NEW CONCRETE BASE. REFEED REUSED LIGHT POLES TO FROM EXISTING CIRCUIT AND CONTROLS. MATCH EXISTING

10 EXISTING XCEL ENERGY POWER POLE TO REMAIN. IF OWNER

11) PROVIDE (2) WEATHER PROOF GFCI RECEPTACLES AND AND (4)

DECIDES TO MOVE POLE, THIS WORK HAS TO BE DONE BY XCEL ENERGY AT THE COST OF THE OWNER.

LIGHT FIXTURE TYPE 'F' IN PATIO AREA. COORDINATE LOCATION

4 PROPOSED LOCATION OF UTILITY TRANSFORMER.

6 LOCATION OF HOUSE PANELBOARD.

CONDUCTORS AND RACEWAYS.

WITH ARCHITECT PRIIOR TO ROUGH-IN.

7 EXISTING LIGHT POLE TO REMAIN.

5 PROVIDE UNDERGROUND 4" PVC CONDUIT FROM UTILITY TRANSFORMER TO ELECTRICITY METERS.

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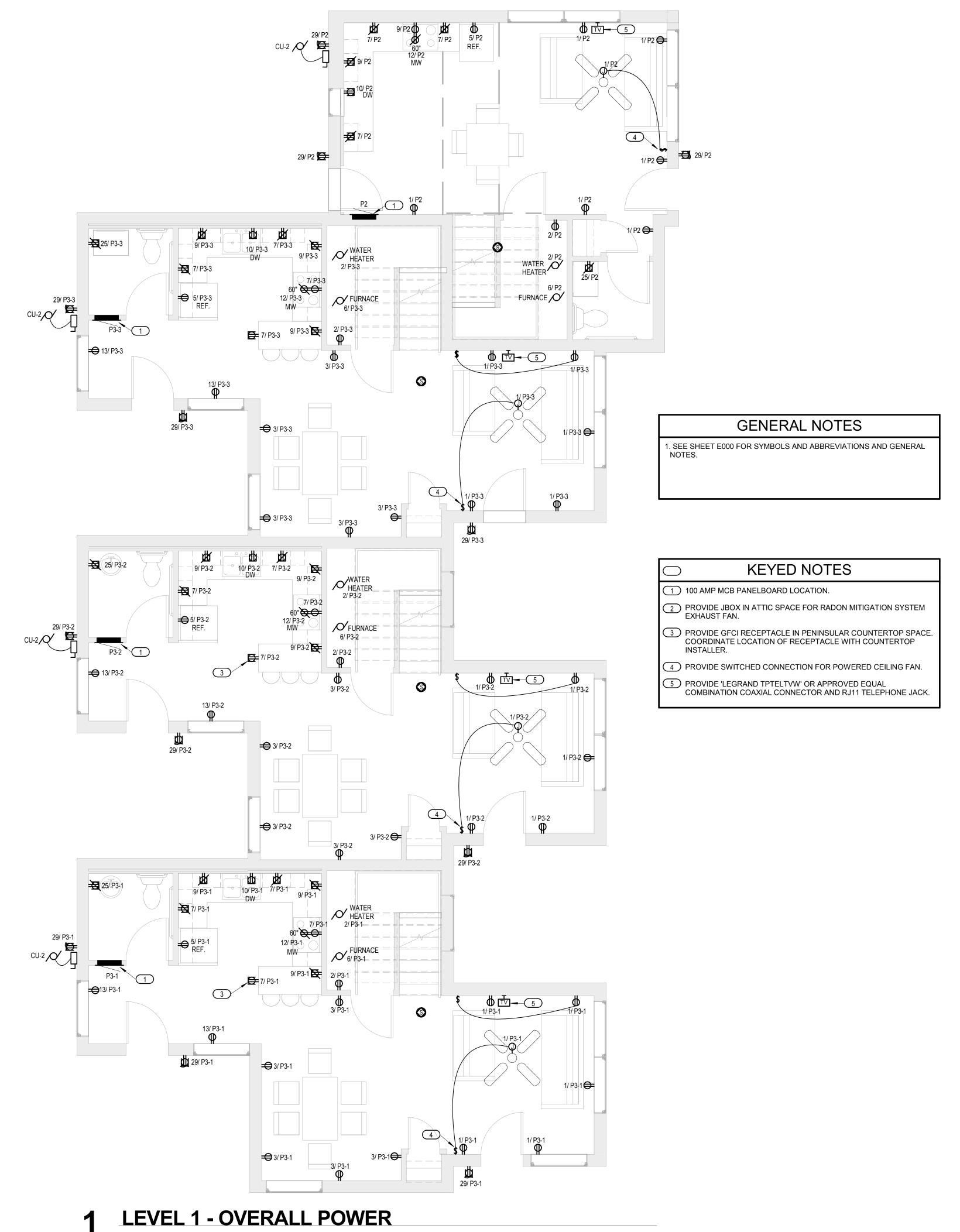
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PROJECT PHASE 100% CD ISSUE DRAWN BY: CAJ

> ELECTRICAL SITE PLAN

> > E001





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Print Names: Leisbel Lam

Date: 06/21/2017 License No; 51412

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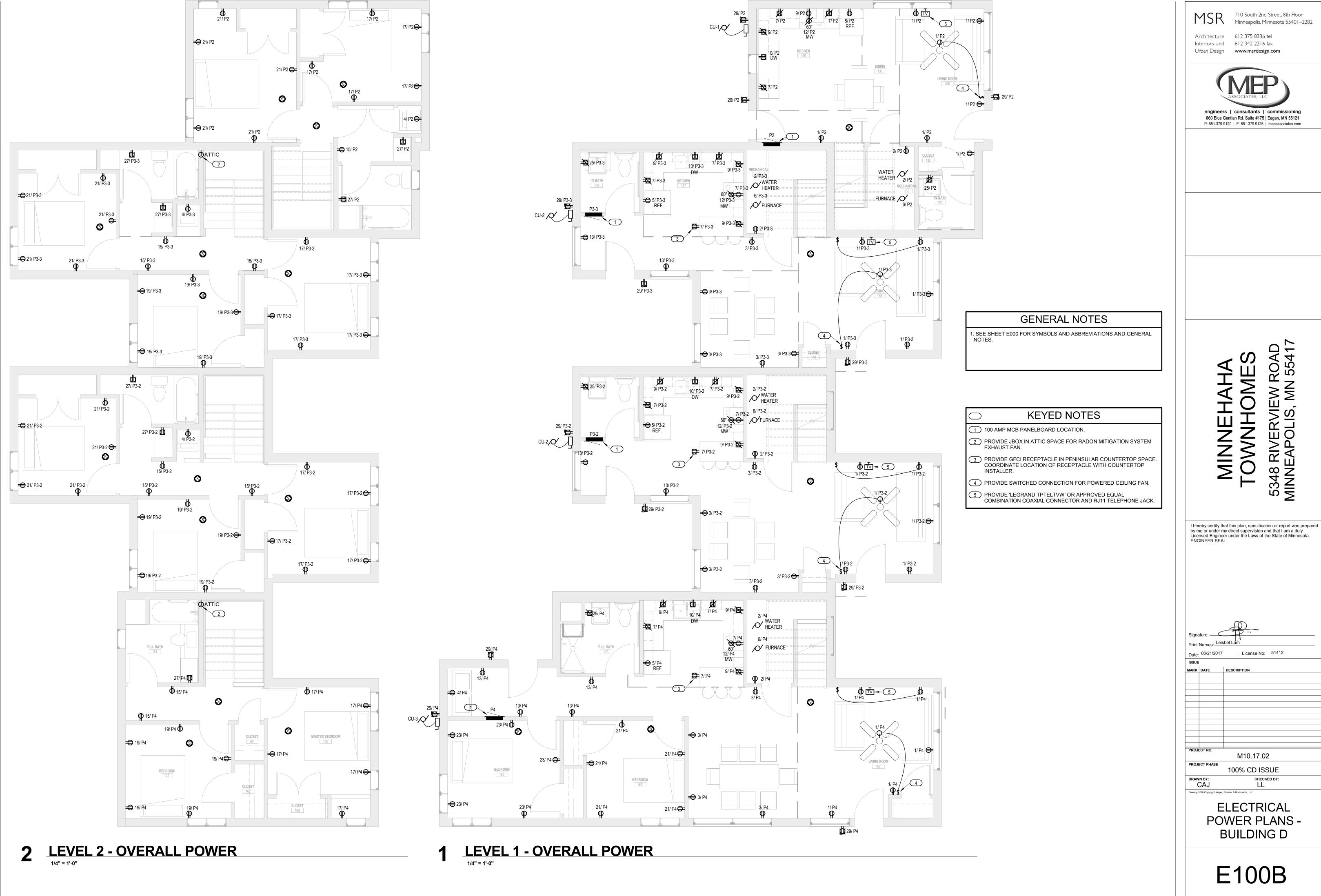
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ELECTRICAL

E100A

POWER PLANS -

BUILDINGS A, B, & C



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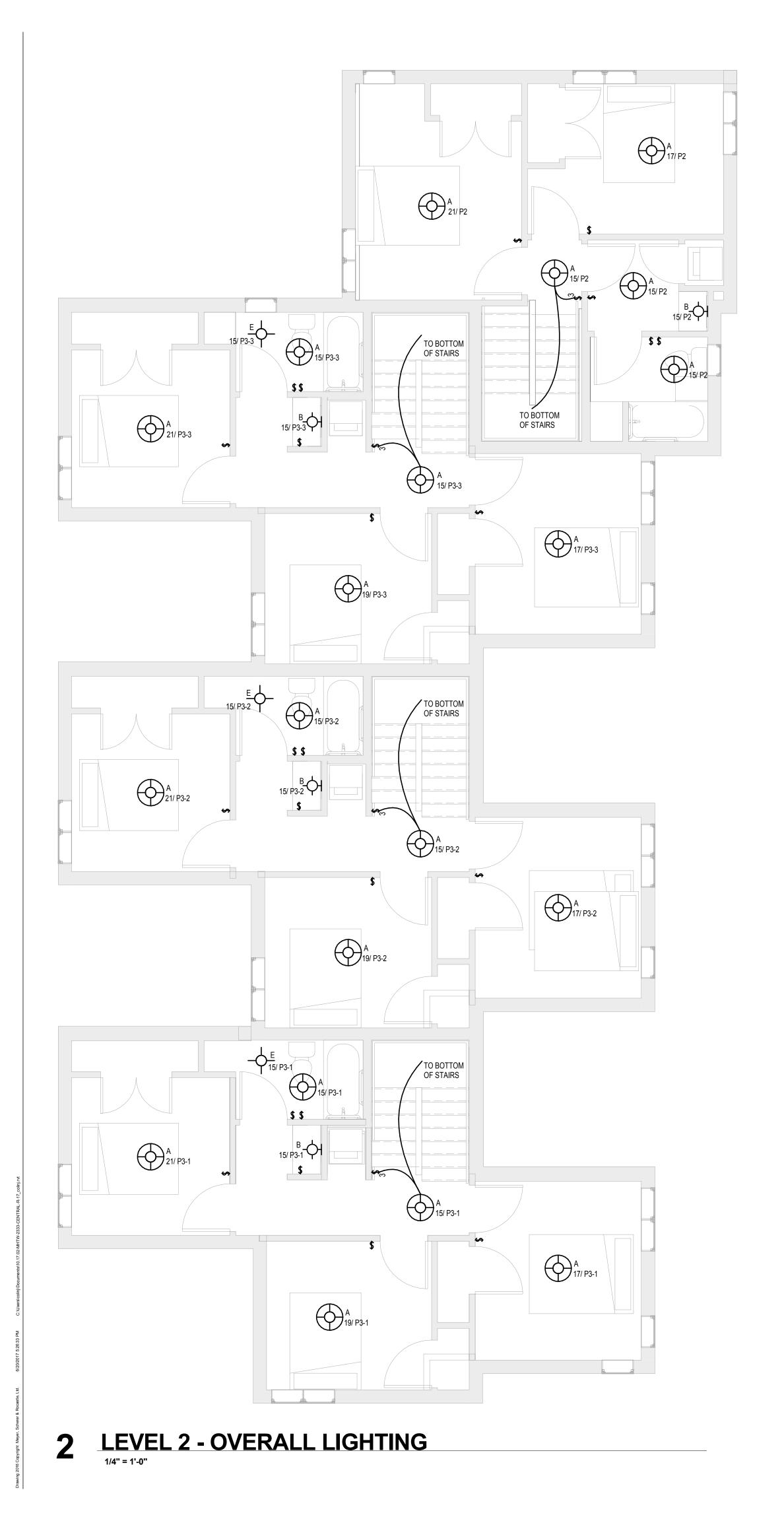
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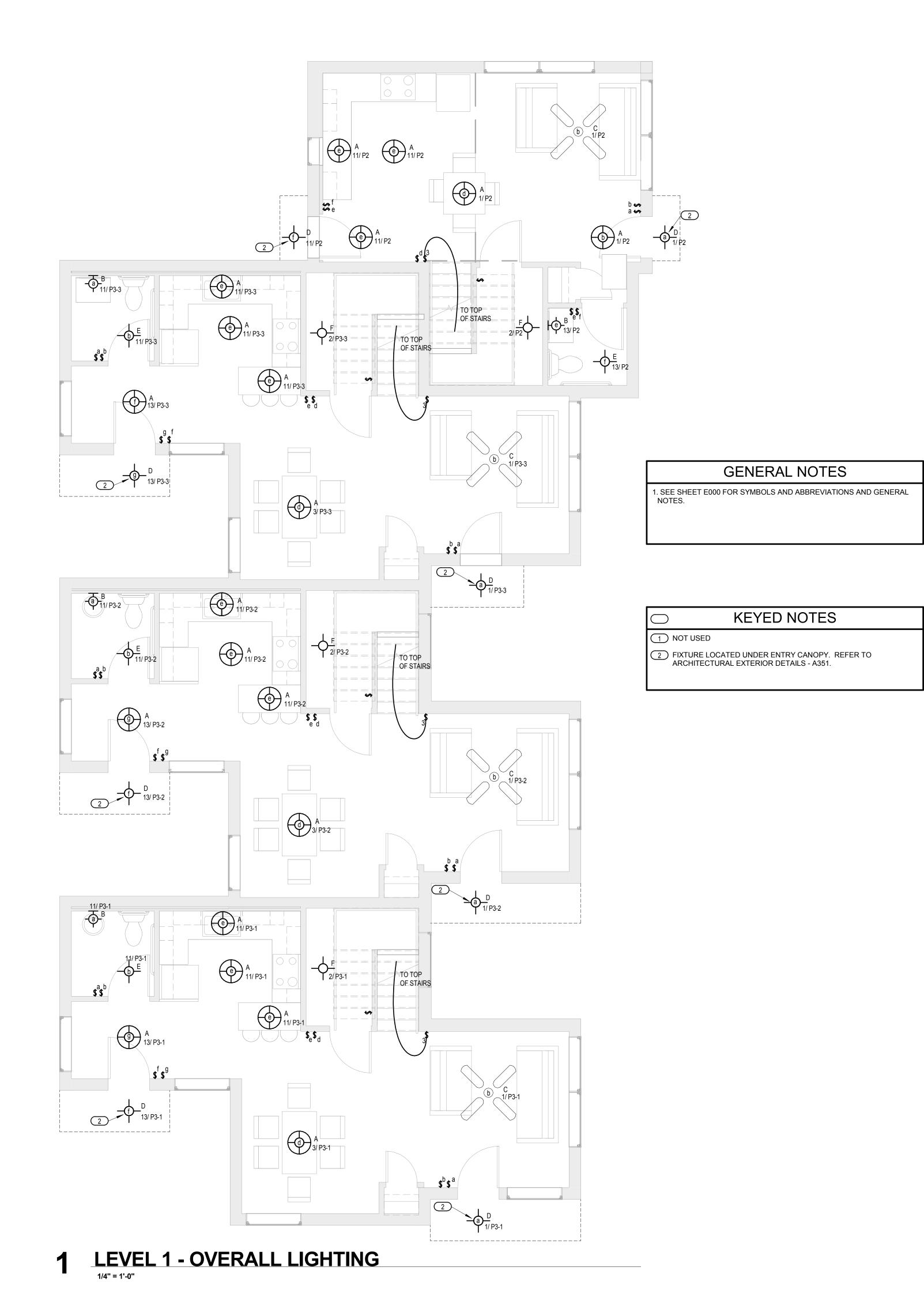
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ELECTRICAL POWER PLANS -BUILDING D

E100B





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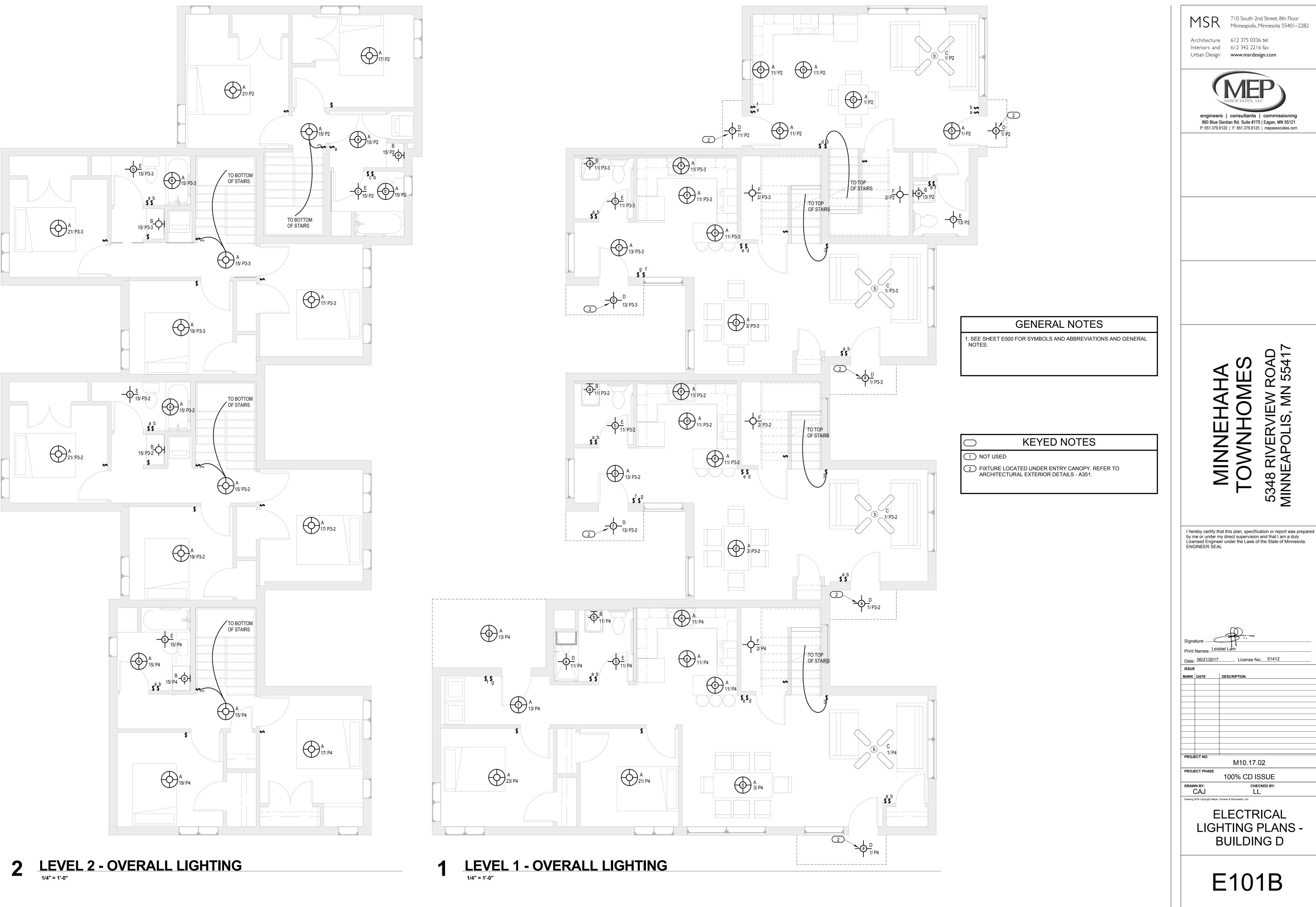
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ELECTRICAL

LIGHTING PLANS -

E101A

BUILDINGS A, B, & C



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E101B

BUILDING D

FEEDER SCHEDULE								
#	CONDUIT SIZE 4W	CONDUIT SIZE 3W	PHASE CONDUCTORS	NEUTRAL CONDUCTOR	EQUIPMENT GROUND CONDUCTOR			
30	3/4"	3/4"	#10	#10	#10			
35	1"	3/4"	#8	#8	#10			
40	1"	3/4"	#8	#8	#10			
45	1"	1"	#6	#6	#10			
50	1"	1"	#6	#6	#10			
60	1 1/4"	1 1/4"	#4	#4	#10 #8			
70	1 1/4"	1 1/4"	#4	#4				
80	1 1/4"	1 1/4"	#3	#3	#8			
90	1 1/2"	1 1/4"	#2	#2	#8			
100	2"	1 1/2"	#1	#1	#8			
110	1 1/2"	1 1/4"	#2	#2	#6			
125	2"	1 1/2"	#1	#1	#6			
150	2"	1 1/2"	#1/0	#1/0	#6			
175	2"	2"	#2/0	#2/0	#6			
200	2"	2"	#3/0	#3/0	#6			
225	2 1/2"	2"	#4/0	#4/0	#4			
250	3"	2 1/2"	250 kcmil	250 kcmil	#4			
300	3"	3"	350 kcmil	350 kcmil	#4			
350	3 1/2"	3"	500 kcmil	500 kcmil	#3			
400	(2) 2"	(2) 2"	2 SETS OF #3/0	2 SETS OF #3/0	#3			

1. FEEDER SIZES ARE ON THE PLAN WHERE 60 REFERS TO A 60A FEEDER WITHOUT NEUTRAL AND 60N REFERS TO A 60A FEEDER WITH NEUTRAL.

4. ALL CONDUCTORS 100A AND LESS ARE SIZED PER 60 DEGREE LUGS, EC MAY SIZE CONDUCTORS FOR ACTUAL RATING OF LUGS PER NEC.

3. CONDUITS ARE SIZED PER NEC TABLES FOR THHN/THWN AND MAY BE UPSIZED FOR EASE OF PULLING OR DOWNSIZED AS ALLOWED PER NEC FOR

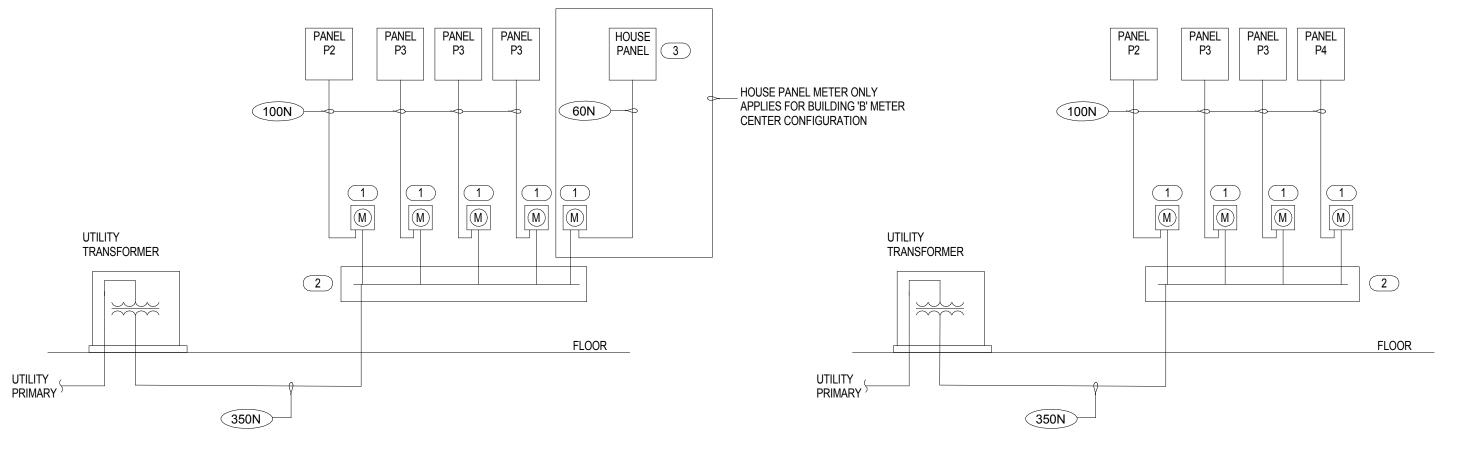
2. SOME FEEDER SIZES DO NOT MATCH BREAKER SIZE DUE TO UP-SIZING OF THE FEEDER FOR VOLTAGE DROP.

### **GENERAL NOTES**

COORDINATE UTILITY TRANSFORMER FINAL LOCATION AND AND METER REQUIREMENTS WITH LOCAL UTILITY COMPANY " XCEL ENERGY, KEVIN JONES 612-630-4549".

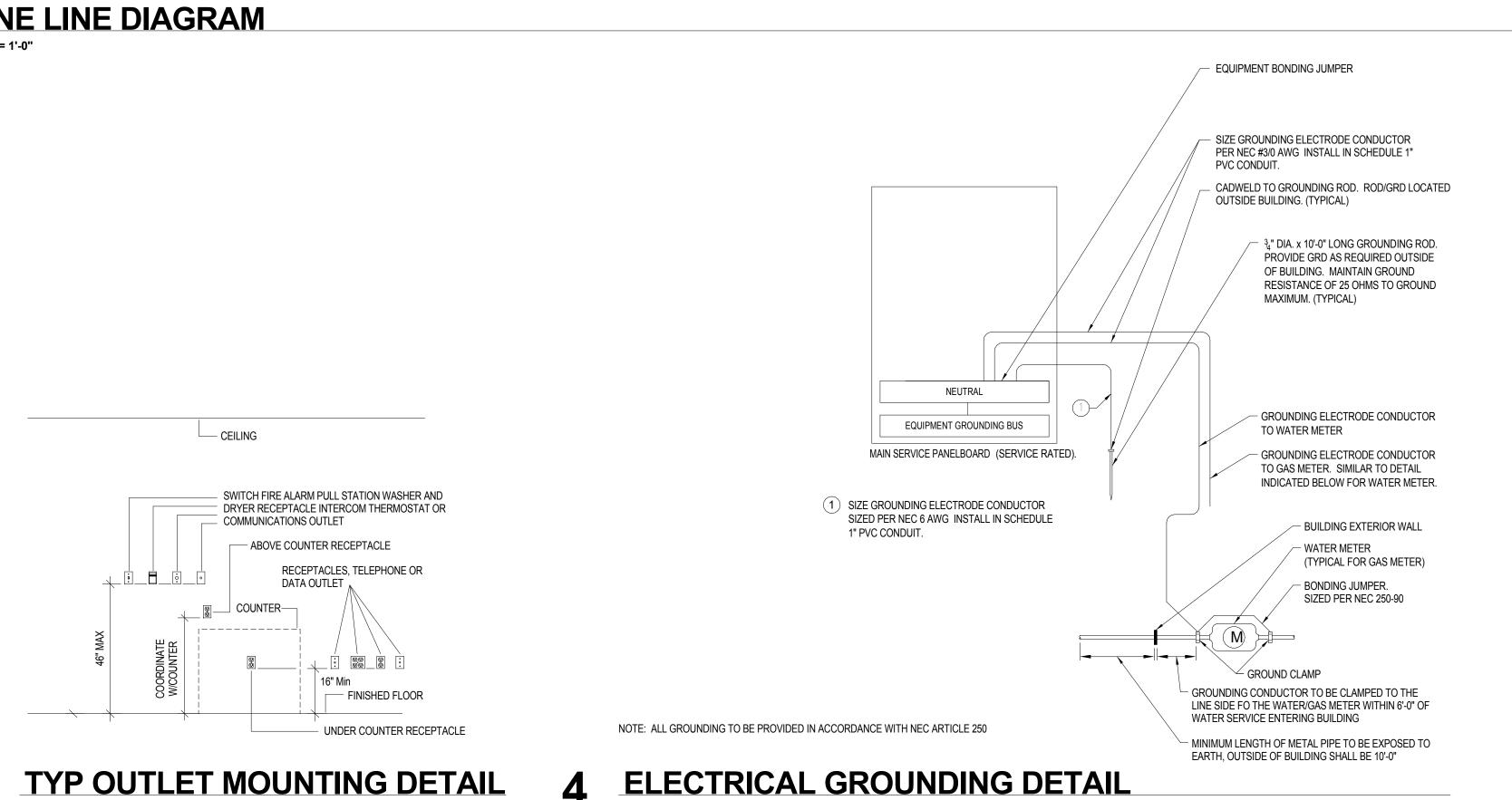
### **KEYED NOTES**

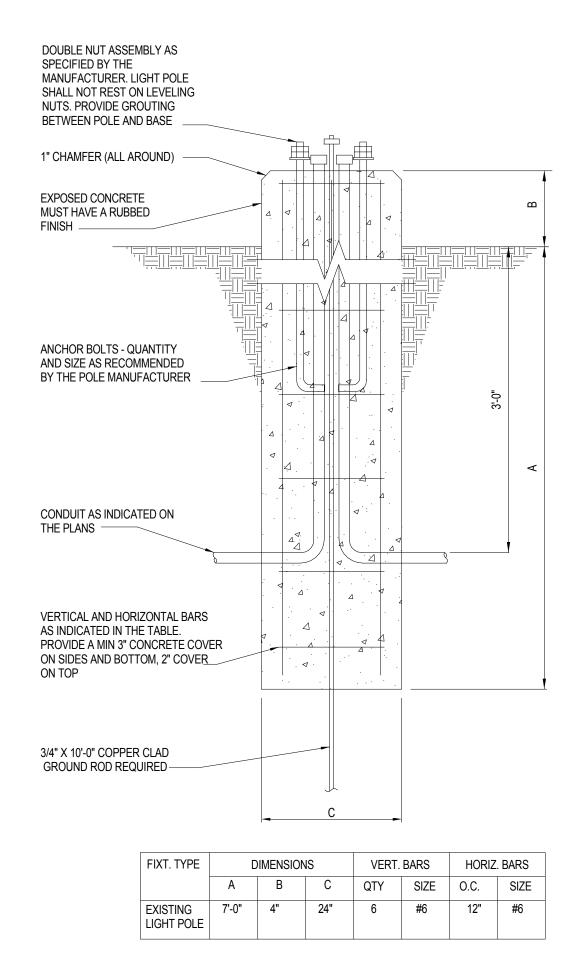
- 1 METER SOCKETS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR.
- 2 ELECTRICAL CONTRACTOR TO SIZE WIREWAY / METER CENTER ENCLOSURE PER
- HOUSE PANELBOARD SHALL BE LOCATED INSIDE THE STORAGE SHED. THIS PANEL SHALL FEED ALL LOAD SERVING THE EXTERIOR COMMON AREA LOADS.



**ONE LINE DIAGRAM** 

CONDUIT TYPE(S) BEING INSTALLED.





**LIGHT POLE BASE DETAIL** 

4 ELECTRICAL GROUNDING DETAIL

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E400

ONE-LINE DIAGRAM

& DETAILS

### **Branch Panel: P2 A.I.C. Rating:** 10,000 Volts: 120/240 Single **Mains:** 100 A **Supply From:** Phases: 1 MCB: 100 A Mounting: RECESSED Wires: 3 Top/Bottom Feed CKT CKT **Circuit Description** \* REC/LTG: LIVING RM & ENTRY LTG 20 A 1 1196 VA 691 VA 1 20 A REC/LTG: MECH ROOM 0 VA 180 VA 1 20 A \*\* REC: LAUNDRY \* REC: KITCHEN REFRIGERATOR 20 A 1 180 VA 960 VA 1 20 A REC: FURNACE 540 VA 0 VA 1 20 A SPARE \* REC: KITCHEN COUNTERTOPS 20 A 1 \* REC: KITCHEN.. 20 A 1 360 VA 180 VA 1 20 A \* REC: KITCHEN DISHWASHER 10 48 VA 180 VA 1 20 A \*\* REC: KITCHEN MICROWAVE. \* LTG: KITCHEN & PATIO 20 A 1 46 VA 0 VA 1 20 A SPARE LTG: LVL 1 BATH REC/LTG: LVL 2 HALL & BATH LTG 20 A 1 261 VA | 0 VA | 1 | 20 A | SPARE \* REC/LTG: LVL 2 EAST BEDROOM 20 A 1 912 VA 0 VA 1 20 A SPARE 18 \* REC/LTG: LVL 2 WEST BEDROOM | 20 A | 1 | 912 VA | 0 VA | 1 | 20 A | SPARE 20 A 1 0 VA 0 VA 1 20 A SPARE 25 REC: LVL 1 BATH 20 A 1 180 VA 0 VA 1 20 A SPARE 26 360 VA 0 VA 1 20 A SPARE REC: LVL 2 BATH 28 20 A 1 540 VA 0 VA 1 20 A SPARE REC: EXTERIOR Total Load: 6157 VA 1569 VA Total Amps: 51 A **Load Classification Panel Totals** Connected Load Demand Factor **Estimated Demand HVAC Blowers** 1460 VA 100.00% 1460 VA Total Conn. Load: 7726 VA 246 VA 125.00% 307 VA 61 VA 100.00% 61 VA Total Est. Demand: 7787 VA 20 VA Total Conn. Current: 32 A 100.00% 20 VA 5940 VA 100.00% Total Est. Demand Current: 32 A Receptacle 5940 VA Non-Coincident... 0 A

### **Branch Panel: P4 A.I.C. Rating:** 10,000 Volts: 120/240 Single Supply From: **Mains:** 100 A Phases: 1 **Mounting:** RECESSED MCB: 100 A Top/Bottom Feed **Circuit Description** Trip Poles Poles Trip CKT \* REC/LTG: LIVING RM & ENTRY LTG | 20 A | 1 | 992 VA | 691 VA | 1 20 A REC/LTG: MECH ROOM REC/LTG: DINING AREA 20 A 1 | 732 VA | 180 VA | 1 | 20 A | \*\* REC: LAUNDRY \* REC: KITCHEN REFRIGERATOR 20 A 1 180 VA 1300 VA 1 20 A REC: FURNACE \* REC: KITCHEN COUNTERTOPS 20 A 1 720 VA 0 VA 1 20 A SPARE 20 A | 1 | 540 VA | 180 VA | 1 | 20 A | \* REC: KITCHEN DISHWASHER 10 \* LTG: KITCHEN & FULL BATH 125 | 20 A | 1 93 VA 180 VA 1 20 A \*\* REC: KITCHEN MICROWAVE. 20 A 1 744 VA 0 VA 1 20 A SPARE REAR ENTRY & PATIO LTG LVL 2 HALL & LVL 2 BATH LTG 20 A 1 429 VA | 0 VA | 1 | 20 A | SPARE 18 912 VA 0 VA 1 20 A SPARE \* REC/LTG: LVL 2 WEST BEDROOM | 20 A | 1 \* REC/LTG: LVL 1 WEST BEDROOM | 20 A | 1 | 912 VA | 0 VA | 1 | 20 A | SPARE 20 A 1 180 VA 0 VA 1 20 A SPARE 25 REC: LVL 1 BATH 26 20 A 1 REC: LVL 2 BATH 180 VA 0 VA 1 20 A SPARE 20 A 1 540 VA 0 VA 1 20 A SPARE 29 REC: EXTERIOR **Total Load:** 7172 VA 4338 VA Total Amps: 60 A 36 A Load Classification **Panel Totals** Connected Load Demand Factor Estimated Demand **HVAC Blowers** 1800 VA 100.00% 1800 VA Total Conn. Load: 11510 VA 290 VA 125.00% 362 VA Total Est. Demand: 11582 VA 61 VA 100.00% 61 VA 9360 VA 100.00% Total Conn. Current: 48 A Receptacle 9360 VA Total Est. Demand Current: 48 A

MOTOR SCHEDULE							
EQUIP						DISC	ONNECT
NUMBER	DESCRIPTION	VOLTS	PH.	MCA	CONDUIT & WIRE SIZE	BY	TYPE
CU-1	CONDENSING UNIT	208	1	15.7	3#12, 1#12 GND	ELEC	NON FUSED SWITCH
CU-2	CONDENSING UNIT	208	1	15.7	3#12, 1#12 GND	ELEC	NON FUSED SWITCH
CU-3	CONDENSING UNIT	208	1	21.8	3#10, 1#10 GND	ELEC	NON FUSED SWITCH
CENEDAL NOTES							

### GENERAL NOTES:

\* - PROVIDE GFCI & AFCI DUAL FUNCTION TYPE CIRCUIT BREAKER

- PROVIDE AFCI TYPE CIRCUIT BREAKER

\* - PROVIDE AFCI TYPE CIRCUIT BREAKER

\*\* - PROVIDE GFCI & AFCI DUAL FUNCTION TYPE CIRCUIT BREAKER

- A. PROVIDE GROUND CONDUCTORS IN ALL MOTOR FEEDERS PER NEC.
- B. COORDINATE ALL MOTORS AND LOCATIONS WITH ARCH AND MECH. C. PROVIDE OVERLOAD PROTECTION PER NEC, EXCEPT WHERE PROTECTION IS PROVIDED BY MECHANICAL.
- D. NOMINAL SYSTEM VOLTAGES ARE LISTED (IE: 120, 208, 480). IF NAMEPLATE UTILIZATION VOLTAGE (IE: 115, 200, 460) ARE NOT COMPATIBLE WITH THE
- NOMINAL VOLTAGE, NOTIFY ENGINEER.
- E. WHERE MOTOR STARTER AND DISCONNECT ARE INDICATED AS IN THE SAME LOCATION PROVIDE A COMBINATION MOTOR STARTER. F. VFD'S PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
- G. PROVIDE STAND ALONE DISCONNECT SWITCH FOR ALL VFD'S SUPPLIED BY MECHANICAL CONTRACTOR.
- H. INPUT AND OUTPUT CONDUCTORS TO AND FROM VFD'S SHALL BE INSTALLED IN SEPARAE RACEWAYS, INDEPENDENT FROM ANY OTHER CONDUCTORS, AND SHALL NOT PASS THRU ANY COMMON WIREWAY OR RACEWAY.

### NUMBERED NOTES:

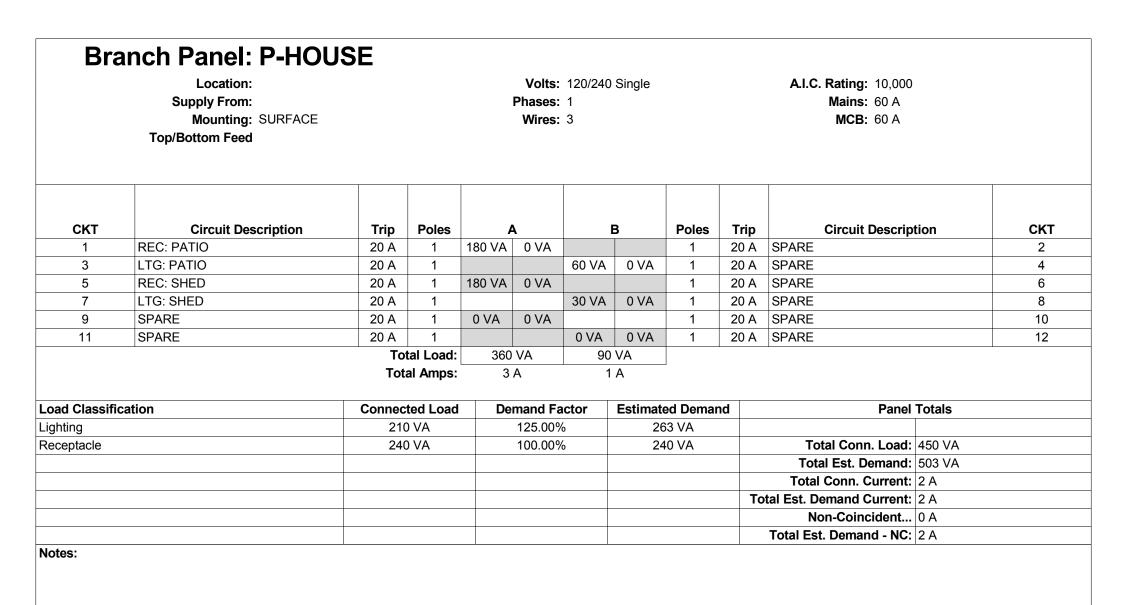
- 1. PROVIDE DUCT SMOKE DETECTOR ON SUPPLY AND RETURN DUCT OF AHU AND PROVIDE FIRE ALARM INTERLOCK FOR FAN SHUTDOWN.
- 2. PACKAGED UNIT WITH A SINGLE POINT ELECTRICAL CONNECTION.
- 3. EXISTING EQUIPMENT BEING RE-USED.

# ALL P3-X PANELS TO MATCH THIS PANELBOARD SCHEDULE

	Location: Supply From: Mounting: RECESSED Top/Bottom Feed				Volts: Phases: Wires:	-	Single			<b>A.I.C. Rating:</b> 10,000 <b>Mains:</b> 100 A <b>MCB:</b> 100 A		
СКТ	Circuit Description	Trip	Poles		Ą		3	Poles	Trip	Circuit Descrip	tion	СКТ
1	* REC/LTG: LIVING ROOM	20 A	1	992 VA	691 VA			1	20 A	REC/LTG: MECH ROOM		2
3	* REC/LTG: DINING AREA	20 A	1			912 VA	180 VA	1	20 A	** REC: LAUNDRY		4
5	* REC: KITCHEN REFRIGERATOR	20 A	1	180 VA	960 VA			1	20 A	REC: FURNACE		6
7	* REC: KITCHEN COUNTERTOPS	20 A	1			720 VA	0 VA	1	20 A	SPARE		8
9	* REC: KITCHEN	20 A	1	540 VA	180 VA			1	20 A	* REC: KITCHEN DISHWA		10
11	* LTG: KITCHEN & LVL 1 BATH	20 A	1			81 VA	180 VA	1	20 A	** REC: KITCHEN MICRO	WAVE	12
13	LTG: REAR ENTRY & PATIO	20 A	1	383 VA	0 VA			1	20 A	SPARE		14
15	REC/LTG: LVL 2 HALL & BATH LTG	20 A	1			609 VA	0 VA	1	20 A	SPARE		16
17	* REC/LTG: LVL 2 EAST BEDROOM	20 A	1	912 VA	0 VA			1	20 A	SPARE		18
19	* REC/LTG: LVL 2 SOUTH BEDROOM	20 A	1			912 VA	0 VA	1	20 A	SPARE		20
21	* REC/LTG: LVL 2 WEST BEDROOM	20 A	1	912 VA	0 VA			1	20 A	SPARE		22
23	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE		24
25	REC: LVL 1 BATH	20 A	1	180 VA	0 VA			1	20 A	SPARE		26
27	REC: LVL 2 BATH	20 A	1			360 VA	0 VA	1	20 A	SPARE		28
29	REC: EXTERIOR	20 A	1	540 VA	0 VA			1	20 A	SPARE		30
			tal Load: al Amps:		1 VA I A		5 VA 3 A					
oad Classification		Connec	ted Load	De	mand Fa	ctor	Estimate	ed Deman	d	Panel	Totals	
HVAC Blowers		146	0 VA		100.00%	, D	146	60 VA				
ighting		246	S VA		125.00%	, 0	30	7 VA		Total Conn. Load:	10426 VA	
Motor		61	VA		100.00%	, D	6	1 VA		Total Est. Demand:	10487 VA	
Other		20	VA		100.00%	, 0	20	O VA		Total Conn. Current:	43 A	
Receptacle		864	0 VA		100.00%	, 0	864	40 VA	To	otal Est. Demand Current:	44 A	
										Non-Coincident	0 A	
										Total Est. Demand - NC:	44 A	

Total Est. Demand - NC: 32 A

Non-Coincident... 0 A Total Est. Demand - NC: 48 A \* - PROVIDE AFCI TYPE CIRCUIT BREAKER \*\* - PROVIDE GFCI & AFCI DUAL FUNCTION TYPE CIRCUIT BREAKER



TYPE	DESCRIPTION	MOUNTING	MANUFACTURER: SERIES	LAMPS	VOLTS	NOTES
A	14'-0" ROUND LED, BRUSH NICKEL WITH TRANSLUCENT WHITE DIFFUSER	SURFACE	BROWNLEE LIGHTING: 2061-WH-B12LED-30K-BAC-ES	LED 1303LM/12W	120	
В	33" VANITY LED, BRUSH NICKEL WITH TRANSLUCENT WHITE DIFFUSER	SURFACE	THOMAS LIGHTING: TT0006217	LED 1700LM/34W	120	
С	52" CEILING FAN WITH LED LIGHTING	SURFACE	HUNTER: DEMPSEY 59251	LED 9.8W	120	
D	NEW CONTRUCTION 4" BAFFLE LED MATTE WHITE DOWNLIGHT	RECESSED	LITHONIA LIGHTING: 4BEMW LED 30K L3LED T24	LED 600LM/10.3W	120	
Е	BATHROOM EXHAUST FAN WITH LED LIGHT	RECESSED	PANASONIC: FV-05-11VKL1	LED	120	
F	CEILING MOUNT GENERAL PURPOSE UTILITY LED	SURFACE	LITHONIA LIGHTING: OLVTCM	LED 600LM/15W	120	

## GENERAL NOTES:

- A. REFER TO ARCHITECTURAL PLANS AND DETAILS FOR FIXTURES MUNTING HEIGHTS. UNLESS NOTED OTHERWISE.
- B. VERIFY THE COMPATIBILITY OF LIGHT FIXTURES WITH CEILING MATERIAL, ADJACENT CONSTRUCTION, AND ADJACENT FINISHES PRIOR TO SHOP DRAWINGS. C. CONTRACTOR RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE NECESSARY AT, ABOVE, OR BELOW THE CEILING PLANE TO SUPPORT THE LIGHT FIXTURES.

# NOTES:

MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282

Architecture 612 375 0336 tel Interiors and 612 342 2216 fax

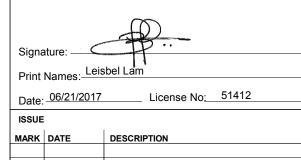


Urban Design www.msrdesign.com

# 348 RIVERVIEW ROAD INNEAPOLIS, MN 55417

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 Engineer under the Laws of the State of Minnesota.

ENGINEER SEAL



	Date:	06/21/2017	License No: 51412
	ISSUE		
	MARK	DATE	DESCRIPTION
	PROJI	ECT NO.	
			M10.17.02
	PROJECT PHASE		
			100% CD ISSUE
DRAWN BY:			CHECKED BY:

**ELECTRICAL SCHEDULES** 

CAJ

E500