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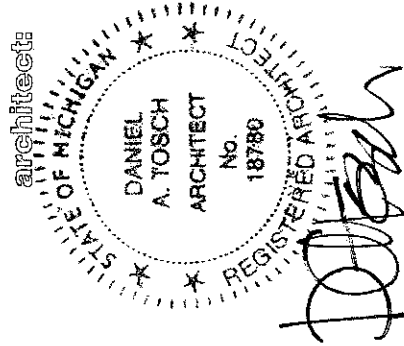
# OAKMONT BOULEVARD HILLS / SENIOR CITIZEN HOUSING & ASSISTED LIVING FACILITY ROCHESTER HILLS, MICHIGAN

developer:

**POMKAL ROCHESTER, L.L.C.**  
25480 Telegraph Rd  
Suite 100  
Southfield, Michigan 48033  
(248) 356-4060

general  
contractors:

**LIBERTY CONSTRUCTION COMPANY**  
25480 Telegraph Rd  
Suite 100  
Southfield, Michigan 48033  
(248) 356-4060



**Progressive Associates, Inc.**  
838 West Long Lake Road  
Suite 250  
Bloomfield Hills, Michigan 48302  
(248) 540-6940

issued:

REVIEW	April 30, 2009
REVISED CITY COMMENTS	June 26, 2009
REVISED	September 18, 2009
REVISED	October 8, 2009
REVISED PER CITY	November 5, 2009

**GENERAL NOTES:**

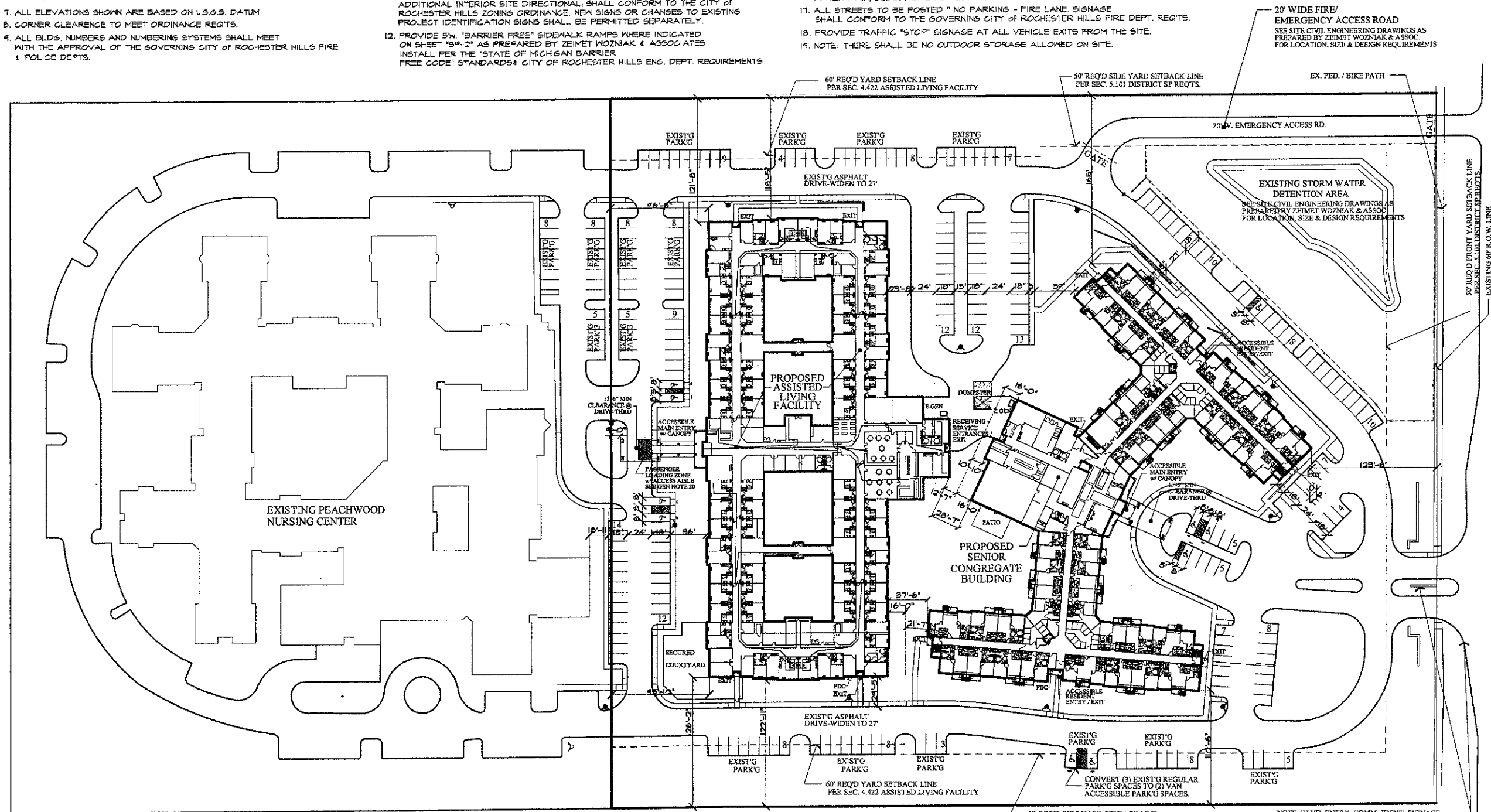
1. ALL PARKING SPACES AND COMMON DRIVES TO BE SETBACK A MIN. 5' AWAY FROM ANY BUILDING OR STRUCTURE.
2. 5' CONC. WALKS ADJACENT TO PARKING AREAS
3. ALL PROPOSED SITE WORK AND BUILDING CONSTRUCTION SHALL CONFORM TO THE CITY OF ROCHESTER HILLS GOVERNING ORDINANCES, REQUIREMENTS AND BUILDING CODES.
4. ALL FINAL GRADING SHALL BE PER APPROVED SITE CIVIL ENGINEERING IN ACCORDANCE W/ THE CITY OF ROCHESTER HILLS REQUIREMENTS.
5. FINAL FIRE HYDRANT LOCATION AND QUANTITY SHALL MEET W/ THE CITY OF ROCHESTER HILLS GOVERNING ENG. DEPT. & FIRE DEPT.
6. TRASH DUMPSTER ENCLOSURES SHALL BE MASONRY ON (3) SIDES WITH WOOD GATES, MINIMUM 6 FT HGH - HEIGHT TO COVER DUMPSTER(S).
7. ALL ELEVATIONS SHOWN ARE BASED ON U.S.G.S. DATUM
8. CORNER CLEARANCE TO MEET ORDINANCE REQ'TS.
9. ALL BLDG. NUMBERS AND NUMBERING SYSTEMS SHALL MEET WITH THE APPROVAL OF THE GOVERNING CITY OF ROCHESTER HILLS FIRE & POLICE DEPTS.

10. SITE LIGHTING (EXISTING & PROPOSED) - NEW SITE LIGHTING SHALL MATCH THE EXISTING POLE TYPE, HEIGHT, FIXTURE TYPE & MATTAGE THAT EXISTS ALONG THE EXISTING RING DRIVE & PARKING ARE AS PREVIOUSLY CONSTRUCTED WHEN THE "PEACHWOOD NURSING CENTER" WAS BUILT. SEE SHEET "SP-1" AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES FOR EXISTING LIGHT POLE LOCATIONS. ALL EXTERIOR SITE LIGHTING SHALL BE SHIELDED AND SHALL CONFORM TO THE GOVERNING CITY OF ROCHESTER HILLS ZONING ORDINANCE. ALL SITE LIGHTING SHALL BE DIRECTED TO REMAIN WITHIN THE SITE BOUNDARIES. FOR PROPOSED NEW / ADDITIONAL SITE LIGHTING LOCATIONS REFER TO APPROVED / PERMITTED SITE LIGHTING ELECTRICAL DRAWINGS
11. EXISTING COMMUNITY IDENT. SIGNAGE IS LOCATED AT THE DEVELOPMENT ENTRY BLVD OFF SOUTH BOULEVARD. - SEE SHEET "SP-1" FOR LOCATION AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES. ADDITIONAL INTERIOR SITE DIRECTIONAL; SHALL CONFORM TO THE CITY OF ROCHESTER HILLS ZONING ORDINANCE. NEW SIGNS OR CHANGES TO EXISTING PROJECT IDENTIFICATION SIGNS SHALL BE PERMITTED SEPARATELY.
12. PROVIDE 5W. "BARRIER FREE" SIDEWALK RAMPS WHERE INDICATED ON SHEET "SP-2" AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES. INSTALL PER THE "STATE OF MICHIGAN BARRIER FREE CODE" STANDARDS & CITY OF ROCHESTER HILLS ENG. DEPT. REQUIREMENTS

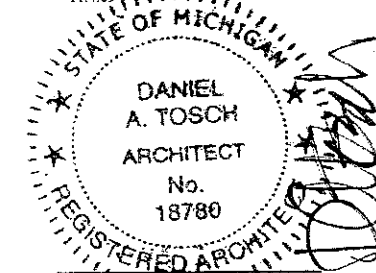
13. PRESERVE ALL EXISTING VEGETATION / TREES WHERE FEASIBLE. SEE SITE LANDSCAPE PLANS AND TREE PRESERVATION PLANS AS PREPARED BY JAMES C. SCOTT & ASSOCIATES, INC., LANDSCAPE ARCHITECTS
14. TREES TO REMAIN SHALL BE PROTECTED W/ A SNOW FENCE BARRIER AND SHALL MEET THE STANDARDS OF THE CITY OF ROCHESTER HILLS. SEE "TREE PROTECTION NOTES" LOCATED ON SHEET "SP-1" AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES
15. ALL AREAS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE RESTORED AND HYDROSEEDED.
16. SEE SITE CIVIL ENGINEERING PLANS AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES FOR SANITARY SEWER, STORM WATER MANAGEMENT, WATER MAIN, BLDG. / SITE HORIZONTAL CONTROL PLAN, ETC.
17. ALL STREETS TO BE POSTED "NO PARKING - FIRE LANE" SIGNAGE SHALL CONFORM TO THE GOVERNING CITY OF ROCHESTER HILLS FIRE DEPT. REQ'TS.
18. PROVIDE TRAFFIC "STOP" SIGNAGE AT ALL VEHICLE EXITS FROM THE SITE.
19. NOTE: THERE SHALL BE NO OUTDOOR STORAGE ALLOWED ON SITE.

20. PASSENGER LOADING ZONE SHALL BE 20' x 8'. ADJACENT ACCESS AISLE SHALL BE 20' x 8'. THE PAVEMENT AT THE LOADING ZONE & THE ACCESS AISLE SHALL BE SLOPED NO MORE THAN 1:48 (2%).
21. ANY & ALL ROOF TOP OR GROUND MOUNTED EQUIPMENT SHALL BE SCREENED FROM ADJACENT PROPERTIES ON ALL SIDES.
22. PROVIDE DETECTIBLE WARNINGS ON SIDEWALK RAMPS LOCATED IN ALL RIGHT-OF-WAYS - SEE ENG DINGS FOR DETAIL.

838 W. Long Lake #250  
Bloomfield Hills, MI 48302  
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Issued For:	REVIEW
REVIEW	10.30.07
REVIEW	2.18.08
REVIEW	9.3.08
REVIEW	11.14.08
REVIEW	1.8.09
REVIEW	1.20.09
REVIEW	2.11.09
REVIEW	2.23.09
REVIEW	3.9.09
REVIEW	3.25.09
REVISED per CITY	6.26.09
REVISED	10.8.09
REVISED per CITY	11.4.09



Contractor:  
**LIBERTY CONSTRUCTION**

Developer:  
**POMKAL ROCHESTER LLC**

Project:  
**BOULEVARD HILLS Senior Housing**

Rochester Hills, Michigan  
Sheet Title:

**PROPOSED ARCHITECTURAL SITE PLAN**

Project Number: **07-064**  
Drawn: **VC**  
Checked: **DT**  
Date: **10.30.07**  
Sheet Number:

**ASP**

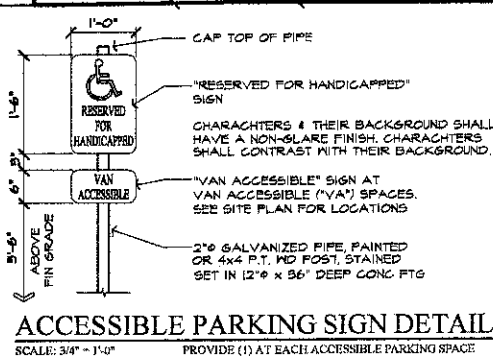
**SITE DATA**

SITE AREA: 12.86 NET ACRES / (960,181.6 NET SQ.FT. SITE AREA)	
ZONING: SP - SPECIAL PURPOSE DISTRICT	
<b>SENIOR CONGREGATE BUILDING</b>	
BUILDING HEIGHT: (3) STORIES	BUILDING HEIGHT: (1) STORY
CONSTRUCTION TYPE: VA	CONSTRUCTION TYPE: VA
NO STANDPIPE SYSTEM	NO STANDPIPE SYSTEM
TOTAL ZONING ORD. BLDG AREA: * 149,574 sf	TOTAL ZONING ORD. BLDG AREA: 65,698 sf *
FIRST FLOOR 55,221 sf	ASSISTED LIVING 37
SECOND FLOOR 47,315 sf	MEMORY CARE 27
THIRD FLOOR 47,038 sf	
TOTAL # OF UNITS: 120	
1 BEDRM 84	
2 BEDRM 36	
PARKING REQUIRED:	
0.8 SPACES PER UNIT ... 96 SPACES	
1 SPACE/EMPLOYEE ... 20 SPACES	
PARKING PROVIDED ... 163 SPACES	
(w/ 8 B.F. SPACES INCLUDED)	
DEVELOPMENT TOTAL PARKING: 219 TOTAL SPACES PROVIDED	
(FROM SENIOR CONGREGATE & SENIOR ASSISTED LIVING DATA ABOVE)	
STND (ON-ACCESSIBLE) PARKING SPACE SIZE: 10' x 14'	

DENSITY: 14.3 DWELLING UNITS PER ACRE PROPOSED  
BUILDING SITE COVERAGE: 22 % TOTAL SITE COVERAGE  
(131,300 SQ.FT. BUILDING AREA / 596,191.8 SQ.FT. SITE AREA = 21.6 % COVERAGE)

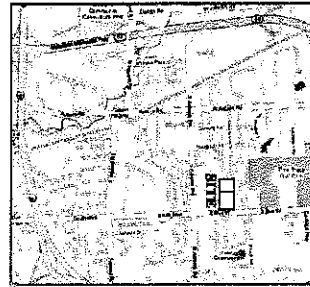
**GENERAL SITE NOTE:**  
ALL SITE GRADING, PROPOSED UTILITY LAYOUTS - STORM WATER MGT., WATER, SAN. SEWER CURBING ETC. SHOWN ON THIS ARCHITECTURAL SITE PLAN IS FOR REFERENCE ONLY AND IS NOT FOR CONSTRUCTION PURPOSES - REFER TO SITE CIVIL ENGINEERING DRAWING AS PREPARED BY ZEIMET WOZNAK & ASSOCIATES, INC.

**\* ZONING ORDINANCE BUILDING AREA:**  
CALCULATED TO THE EXTERIOR FACE OF THE EXTERIOR WALLS, EXCLUDING PATIOS, DECKS, PORCHES, AND PORTE COCHERE



**FIRE DEPARTMENT NOTES:**

1. CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
  2. OPEN BURNING IS NOT PERMITTED INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPT FOR PERMIT INFORMATION. FIRE PREVENTION ORDINANCE CHAPTER 50, SEC. 507.6.2 & 307.6.3
  3. FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FT APART. "NO STOPPING, STANDING, PARKING, FIRE LANE" AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 50, SEC. 506
  4. A KNOX KEY SYSTEM SHALL BE INSTALLED IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE FIRE DEPARTMENT. IFC 2006 SEC. 506
  5. KNOX LOCKS SHALL BE PROVIDED FOR BOTH GATES AT THE FIRE/EMERGENCY ACCESS ROAD.
  6. THE "SENIOR CONGREGATE BUILDING" WILL BE PROVIDED W/ NFPA 14 COMPLIANT FULLY AUTOMATIC WET STANDPIPE SYSTEM AS APPROVED BY THE CITY OF ROCHESTER HILLS FIRE DEPARTMENT.
- ☞ = PROPOSED FIRE HYDRANT. LOCATION TO BE APPROVED BY ROCHESTER HILLS FIRE DEPARTMENT.  
☑ = EXISTING FIRE HYDRANT.



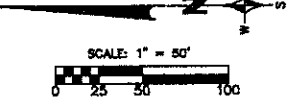
**PROPERTY DESCRIPTION (OVERALL):**  
 PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 31, T. 3 N., R. 11 E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS:  
 COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 31 AND PROCEEDING ALONG THE SOUTH LINE OF SAID SECTION 31, ALSO BEING THE CENTERLINE OF SOUTH BOULEVARD S. 89°57'35" W. 821.80 FEET; THENCE N. 00°08'37" W. 60.00 FEET TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF SAID SOUTH BOULEVARD (60 FEET WIDE, 1/2 WIDTH) AND POINT OF BEGINNING; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY LINE S. 89°57'35" W. 894.88 FEET; THENCE ALONG THE EAST LINE OF LOT 13 "PON-AVON FARMS" SUBDIVISION AS RECORDED IN LIBER 58, PAGE 23 OAKLAND COUNTY RECORDS N. 00°02'00" W. 819.97 FEET; THENCE N. 00°14'25" W. 187.03 FEET; THENCE N. 00°14'25" W. 580.00 FEET; THENCE THE FOLLOWING TWO (2) COURSES ALONG "PINE TRACE VILLAGE" OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 732 N. 89°57'35" E. 888.00 FEET AND S. 00°08'37" E. 1397.00 FEET TO THE POINT OF BEGINNING AND CONTAINING 22.27 ACRES MORE OR LESS.

**LEGAL DESCRIPTION (12.83 ACRE PARCEL):**  
 PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 31, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS:  
 COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 31 AND PROCEEDING ALONG THE SOUTH LINE OF SAID SECTION 31, ALSO BEING THE CENTERLINE OF SOUTH BOULEVARD S. 89°57'35" W. 821.80 FEET; THENCE N. 00°08'37" W. 60.00 FEET TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF SAID SOUTH BOULEVARD (60 FEET WIDE, 1/2 WIDTH) AND POINT OF BEGINNING; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY LINE S. 89°57'35" W. 894.88 FEET; THENCE ALONG THE EAST LINE OF LOT 13 "PON-AVON FARMS" SUBDIVISION AS RECORDED IN LIBER 58, PAGE 23, OAKLAND COUNTY RECORDS N. 00°02'00" W. 819.97 FEET; THENCE N. 00°14'25" W. 187.03 FEET; THENCE N. 89°57'35" E. 884.00 FEET; THENCE ALONG THE WEST LINE OF "PINE TRACE VILLAGE" OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NUMBER 732 S. 00°08'37" E. 807.00 FEET TO THE POINT OF BEGINNING, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD AND SUBJECT TO THE RIGHTS OF INGRESS AND EGRESS FOR SOWELL NUMBER 18-31-328-031 AND CONTAINING 12.86 ACRES MORE OR LESS.

**EXCEPTIONS, COMMITMENT NO. 274581 REVISION B, DATED 12-12-2007.**

1. MORTGAGE SECURITY AGREEMENT AND ASSIGNMENT OF RENTS, EXECUTED BY POMMAN ASSOCIATES, A MICHIGAN 23-PARTNERSHIP TO HED BANK, DATED JUNE 3, 1994, RECORDED JUNE 10, 1994, IN LIBER 18336, PAGE 363.
2. WATERMAIN EASEMENT IN FAVOR OF CITY OF ROCHESTER HILLS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 10218, PAGE 280, SHOWN.
3. TERMS AND CONDITIONS CONTAINED IN EASEMENT AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 9107, PAGE 714 GRANTS RIGHTS TO DISCHARGE STORM WATER OFFSITE AND ANCHORED IN LIBER 8300, PAGE 233, SHOWN.
4. TERMS AND CONDITIONS CONTAINED IN DECLARATION OF REDFORD EASEMENTS AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 9277, PAGE 805, SHOWN.
5. EASEMENT IN FAVOR OF COUNTY OF OAKLAND AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 7167, PAGE 738, SHOWN.
6. JOINT OVERHEAD AND UNDERGROUND EASEMENT IN FAVOR OF THE DETROIT EDISON COMPANY AND MICROAN BELL TELEPHONE COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 8383, PAGE 253, SHOWN.
7. WATERMAIN EASEMENT AND CONVEYANCE IN FAVOR OF CITY OF ROCHESTER HILLS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 9868, PAGE 530 AND LIBER 9878, PAGE 347 AND LIBER 10560, PAGE 465, SHOWN.
8. SANITARY SEWER EASEMENT AND CONVEYANCE IN FAVOR OF CITY OF ROCHESTER HILLS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 9678, PAGE 344, SHOWN.
9. TERMS AND CONDITIONS CONTAINED IN AREA MAINTENANCE METER AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 12895, PAGE 843.
10. OMIT.
11. RIGHTS OF TENANTS, IF ANY, UNDER ANY UNRECORDED LEASES.

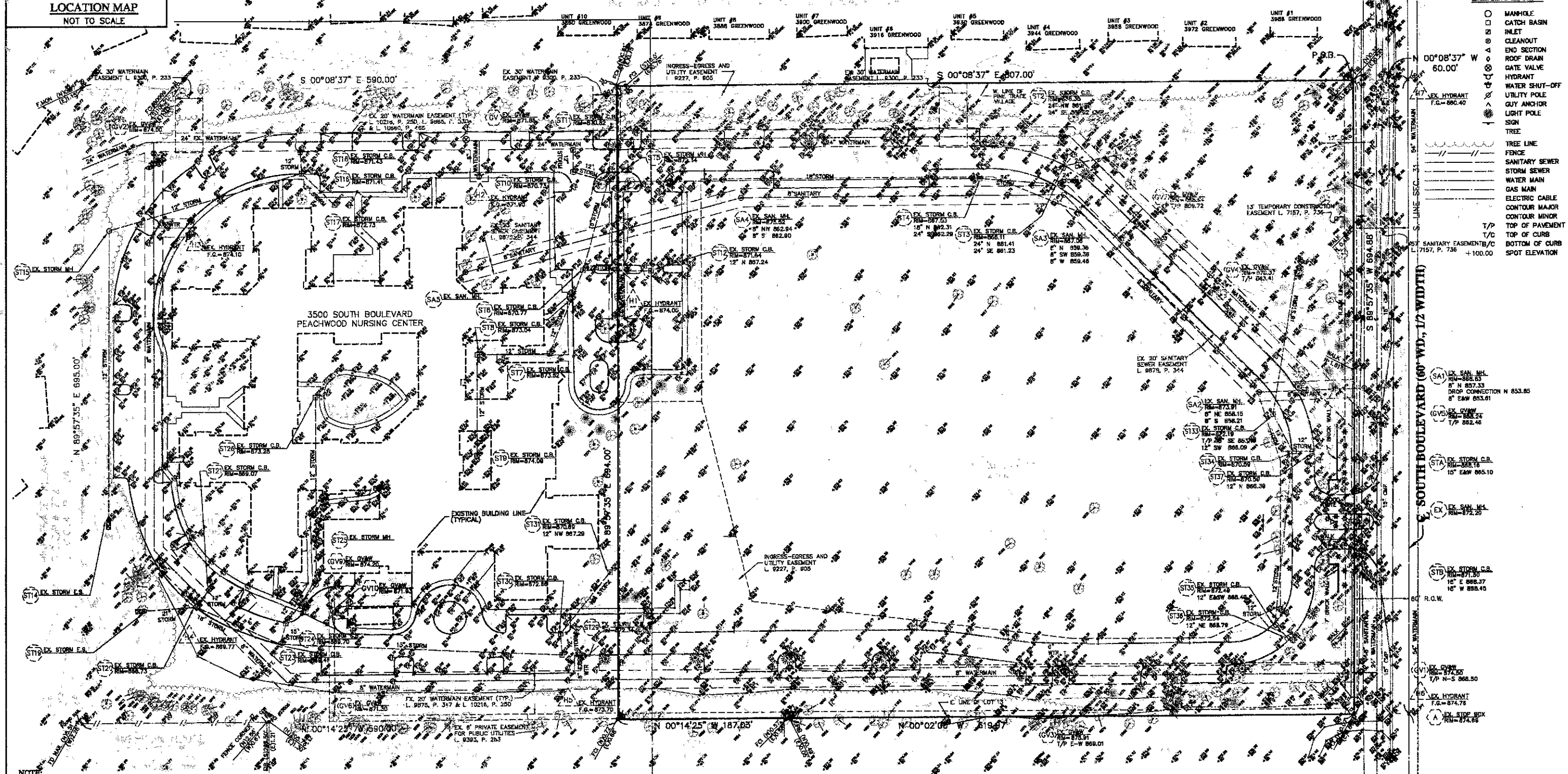
**BENCHMARK:**  
 R.R. SPRING IN UTILITY POLE FROM GRADING PLAN  
 ELEVATION: 870.51  
 U.S.G.S. DATUM



S. 1/4 COR. SEC. 31  
 T. 3 N., R. 11 E.  
 CITY OF ROCHESTER HILLS

**BEACH ROAD**

- EXISTING LEGEND**
- MANHOLE
  - CATCH BASIN
  - INLET
  - CLEANOUT
  - END SECTION
  - ROOF DRAIN
  - GATE VALVE
  - HYDRANT
  - WATER SHUT-OFF
  - UTILITY POLE
  - GUY ANCHOR
  - LIGHT POLE
  - SIGN
  - TREE
  - TREE LINE
  - FENCE
  - SANITARY SEWER
  - STORM SEWER
  - WATER MAIN
  - GAS MAIN
  - ELECTRIC CABLE
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - T/P TOP OF PAVEMENT
  - T/C TOP OF CURB
  - B/C BOTTOM OF CURB
  - +100.00 SPOT ELEVATION



**NOTE:**  
 THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

**TREE NOTE:**  
 TREES TAGGED AND IDENTIFIED BY KING & MACGREGOR ENVIRONMENTAL, INC. TAGGED TREES SURVEYED IN FIELD BY ZEINET-WOZNIAK AND ASSOCIATES.

NOT FOR CONSTRUCTION  
 CITY FILE 09-002

**ADAMS ROAD**

METROPOLITAN TITLE COMPANY, COMMITMENT NO. 274581 REVISION B, DATED 12-12-2007.

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
UPDATE	7-27-07	JW	SP SUBMITTAL	8-28-08	DAB			
UPDATE SURVEY	1-7-08	PTC	PER FIFE MARSHALL	10-12-08	JW			
PER CITY COMMENTS	8-29-08	DAB						
UPDATE	8-31-08	PTC						

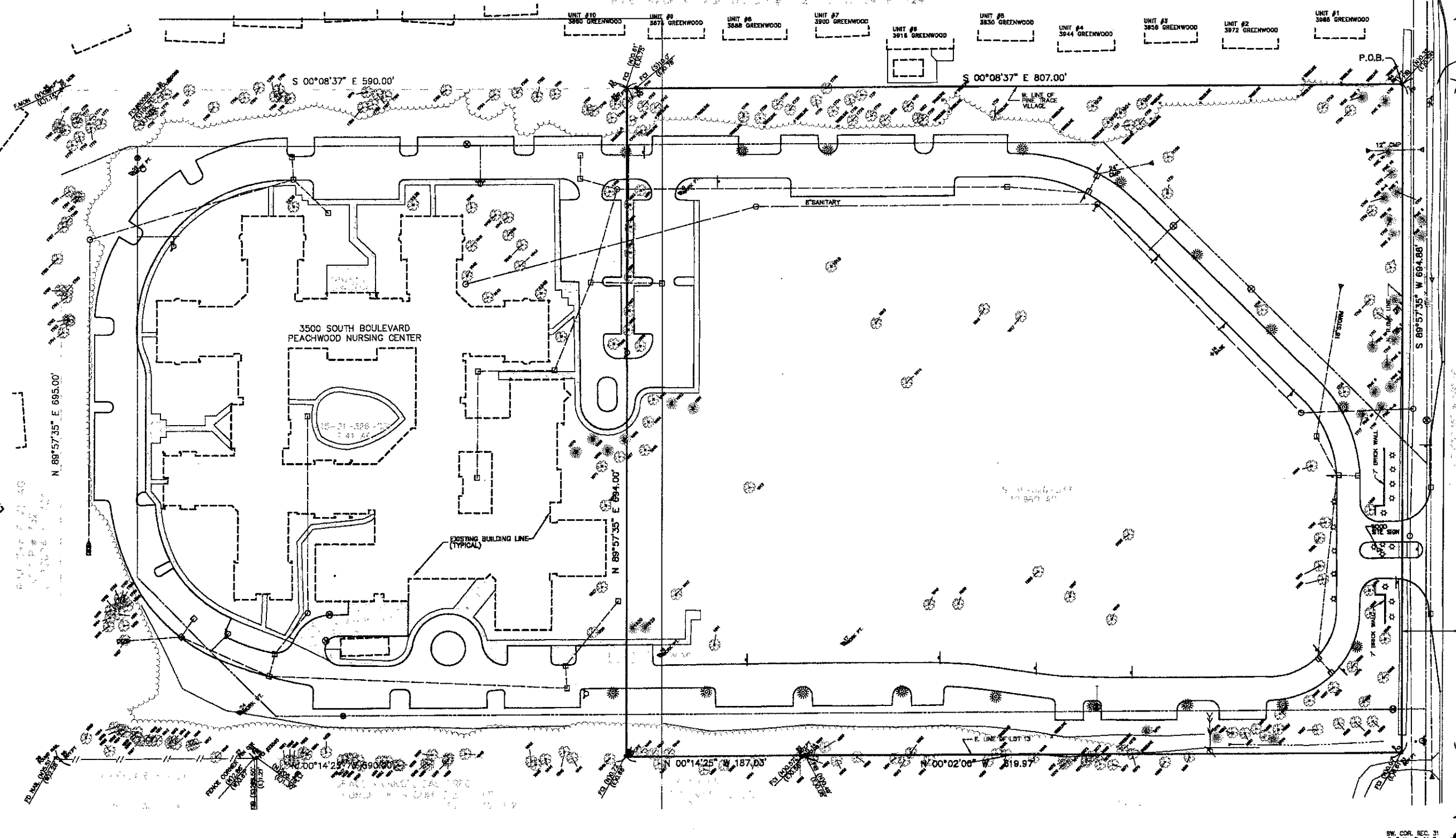
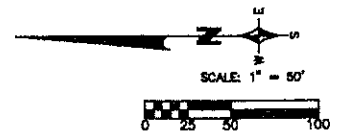
**ZEMET WOZNIAK & ASSOCIATES**  
 Civil Engineers & Land Surveyors  
 4000 GRAND RIVER AVE., SUITE 100  
 TROY, MICHIGAN 48063  
 P: (248) 448-1101 F: (248) 448-5242 www.zemetwoznia.com

**ALTA/ACSM LAND TITLE SURVEY**  
 BOULEVARD HILLS NURSING CENTER  
 ROCHESTER HILLS, MICHIGAN

**PROJECT SPONSOR:**  
 LIBERTY CONSTRUCTION COMPANY  
 25480 TELEGRAPH ROAD, SUITE 100  
 SOUTHFIELD, MI 48034

DATE: 12/18/08 SCALE: HOR: 1" = 50'  
 SHEET NO: 06158 VERT: 1" = N/A  
 DRAWN BY: BKO  
 CHECKED BY: [Signature]  
 SHEET SS-1

NO.	DESCRIPTION	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
1	PROJECT START	7-27-07	JAW	PER FIRE MARSHALL	10-12-08	JAW									
2	UPDATE	8-10-08	SRB												
3	UPDATE TREE LIST	8-31-08	PTD												
4	SP SUBMITTAL	9-29-08	DAB												



- EXISTING LEGEND**
- MANHOLE
  - ◊ ROOF DRAIN
  - CATCH BASIN
  - INLET
  - CLEANOUT
  - ⊕ END SECTION
  - ⊕ GATE VALVE
  - ⊕ HYDRANT
  - ⊕ WATER SHUT-OFF
  - ⊕ UTILITY POLE
  - ⊕ GUY ANCHOR
  - ⊕ LIGHT POLE
  - ⊕ SIGN
  - TREE
  - TREE LINE
  - FENCE
  - SANITARY SEWER
  - STORM SEWER
  - WATER MAIN
  - GAS MAIN
  - ELECTRIC CABLE
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - T/P TOP OF PAVEMENT
  - T/C TOP OF CURB
  - B/C BOTTOM OF CURB
  - +100.00 SPOT ELEVATION

**TREE NOTE:**  
TREES TAGGED AND IDENTIFIED BY KING & MACGREGOR ENVIRONMENTAL, INC.  
TAGGED TREES SURVEYED IN FIELD BY ZEMET-WOZNAK AND ASSOCIATES.

NOT FOR CONSTRUCTION  
CITY FILE 09-002

ADAMS ROAD

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
UPDATE	7-27-07	JAW	PER FIRE MARSHALL	10-12-08	JAW						
UPDATE	8-10-08	SRB									
UPDATE TREE LIST	8-31-08	PTD									
SP SUBMITTAL	9-29-08	DAB									

**ZEMET WOZNAK**  
A ASSOCIATES  
Civil Engineers & Land Surveyors  
4004 GRAND RIVER AVE. SUITE 100  
ROYAL OAK, MICHIGAN 48067  
P: (248) 442-1101 F: (248) 442-1241 www.zemetwoznak.com

**LIBERTY CONSTRUCTION COMPANY**  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034  
1-800-882-7277

**TREE SURVEY**  
BOULEVARD HILLS NURSING CENTER  
ROCHESTER HILLS, MICHIGAN

DATE: 7-07  
SCALE: HOR: 1" = 50'  
VER: 1" = N/A  
DESIGNED BY: [blank]  
JOB NO.: 06158  
DRAWN BY: [blank]  
SHEET: TS-1

11/20/2008 11:00:00 AM



**GRADING NOTES:**

1. SEED AND MULCH ALL AREAS DISTURBED DUE TO GRADING.
2. PEAT OR ANY OTHER UNSUITABLE MATERIALS ENCOUNTERED IN CONSTRUCTION AREAS SHALL BE REMOVED AND BACKFILLED WITH COMPACTED SUITABLE MATERIAL (95% DENSITY). ALL ON-SITE WORK SHALL CONFORM, AT A MINIMUM, TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
3. ALL PROPOSED GRADES SHOWN IN PAVED AREAS ARE TOP OF PAVEMENT (T/P) UNLESS SPECIFIED OTHERWISE.
4. ADD 800.00 TO PROPOSED GRADES TO OBTAIN SITE DATUM ELEVATION.

**CITY OF ROCHESTER HILLS SESC NOTES:**

1. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE OWLAND COUNTY DRAIN COMMISSIONER.
2. ALL TEMPORARY AND PERMANENT (POST CONSTRUCTION) SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE CITY OF ROCHESTER HILLS CURRENT MS4 PERMIT. ANY CONFLICT BETWEEN THESE STANDARDS AND THE MS4 PERMIT, THE PERMIT'S CONDITIONS SHALL TAKE PRECEDENCE.
3. DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
4. ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS.
5. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED. THIS WOULD INCLUDE TEMPORARY SEDIMENTATION PONDS AND TEMPORARY SO-2 FILTERS.
6. STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
7. SOIL EROSION CONTROL PRACTICES SHALL BE ESTABLISHED IN THE EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.

**CONSTRUCTION AND SOIL EROSION WORK SCHEDULE:**

1. PLACE SILT FENCE AROUND PROPOSED CONSTRUCTION AREA AS SHOWN ON THIS PLAN.
2. INSTALL GRAVEL MUD TRACKING MAT NEAR ENTRANCE WHERE INDICATED. INSTALL INLET FILTERS ON ALL EXISTING DRAINAGE INLETS PER PLAN.
3. BASIS GRADE BUILDING PAD, DETENTION BASIN, AND PARKING AREA. PLACE SECOND ROW OF SILT FENCE AROUND PERMANENT WATER ELEVATION OF BASIN.
4. INSTALL SANITARY, STORM, AND WATERMAIN COMPLETE. INSTALL LOW POINT INLET FILTERS ON ALL NEW DRAINAGE INLET STRUCTURES AND RIP-RAP AT ALL OUTLETS.
5. INSTALL PAVEMENT, REPAIR OR REPLACE INLET FILTERS AS NEEDED.
6. FINE GRADE AND LANDSCAPE. SEED AND MULCH OR INSTALL MULCH BLANKETS ON ALL DISTURBED AREAS FROM CONSTRUCTION ACTIVITIES.
7. UPON STABILIZATION OF SITE, REMOVE ACCUMULATED SEDIMENT FROM BASIN AND STORM SEWER. SEED AND MULCH ANY DISTURBED AREAS.
8. IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO INSURE THAT ALL EROSION CONTROL DEVICES ARE MAINTAINED AS REQUIRED THROUGHOUT THE CONSTRUCTION AND THAT THE STREETS ARE KEPT FREE OF MUD AND CONSTRUCTION DEBRIS. EROSION CONTROL DEVICES SHALL BE CHECKED WEEKLY AND AFTER EACH RAIN EVENT TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. ANY REPAIRS SHALL BE MADE IMMEDIATELY.

**FIRE DEPARTMENT NOTES:**

1. ALL PORTIONS OF A BUILDING ARE REQUIRED TO BE WITHIN 150 FEET OF AN APPROVED FIRE DEPARTMENT ACCESS ROAD.
2. FIRE DEPARTMENT ACCESS ROADS ARE REQUIRED TO BE PAVED AND A MINIMUM OF 20 FEET WIDE.
3. EXIT DOORS SHALL REMAIN FREE OF OBSTRUCTIONS AT ALL TIMES. PROVIDE GUARD POSTS OR OTHER ACCEPTABLE MEANS OF PROTECTING EXIT DOORS OPENING ONTO DRIVES AND PARKING AREAS.
4. FIRE LANES SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE, WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. FIRE LANE SIGNS SHALL READ "NO STOPPING, STANDING, PARKING, FIRE LANE", AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND FIRE HYDRANTS.
6. FIRE DEPARTMENT CONNECTIONS, WHEN REQUIRED, SHALL BE LOCATED VISIBLY ON THE STREET FRONT OF THE BUILDING, WITHIN 50-FEET OF AN APPROVED FIRE DEPARTMENT ACCESS ROAD AND A FIRE HYDRANT SHALL BE LOCATED WITHIN 100-FEET OF THE F.D.C.
7. FIRE DEPARTMENT CONNECTIONS SHALL NOT BE OBSCURED OR OBSTRUCTED BY LANDSCAPING, PARKING OR BY ANY OTHER PERMANENT OR TEMPORARY MATERIALS OR DEVICE.
8. CONSTRUCTION SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC CHAPTER 14.
9. DUMPSTERS SHALL BE LOCATED A MINIMUM DISTANCE OF 5 FEET FROM ALL BUILDINGS OR STRUCTURES.
10. OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR PREPARATION OF MORTAR SHALL BE WITHIN CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. CONTACT ROCHESTER HILLS FIRE DEPARTMENT FOR PERMIT INFORMATION.
11. A "KNOX" KEY SYSTEM SHALL BE INSTALLED IN A LOCATION APPROVED BY THE FIRE CODE OFFICIAL. ORDERING INFORMATION IS AVAILABLE FROM THE FIRE DEPARTMENT.
12. KNOX LOCKS SHALL BE PROVIDED FOR BOTH GATES AT THE FIRE/EMERGENCY ACCESS ROAD.

**HYDRANT REQUIREMENTS:**

FOR SENIOR CONGREGATE CARE BUILDING

1. BUILDING CONSTRUCTION TYPE V-A
2. BUILDING AREA 150,059 SF
3. REQUIRED FIRE FLOW 7,000 GPM
4. REQUIRED HYDRANTS 7 WITH 250' AVERAGE SPACING \*

FOR ASSISTED LIVING FACILITY BUILDING

5. BUILDING CONSTRUCTION TYPE V-A
6. BUILDING AREA 63,856 SF
7. REQUIRED FIRE FLOW 4,500 GPM
8. REQUIRED HYDRANTS 5 WITH 300' AVERAGE SPACING \*

\* REQUIRED FIRE FLOW AND HYDRANTS TAKEN FROM TABLES B105.1 AND C105.1 IN THE CITY OF ROCHESTER HILLS ENGINEERING DESIGN STANDARDS.

**WATERMAIN NOTES:**

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION OVER THAT WORK.
2. ALL HYDRANTS, INCLUDING NOZZLES AND PROJECTIONS SHALL BE 3" MINIMUM FROM EDGE OF SIDEWALK, OR 6" MINIMUM FROM BACK OF CURB.
3. THE WATERMAIN WILL HAVE A MINIMUM OF 8 FEET OF COVER.
4. THE CONTRACTOR SHALL DETERMINE DEGREE OF BEND FOR THE WATERMAIN FITTINGS. PIPE DEFLECTIONS SHALL NOT EXCEED 75% OF THE MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION.
5. WATERMAIN SHALL BE CEMENT-LINED (DOUBLE THICKNESS), DUCTILE IRON PIPE, CLASS 54 CENTERED IN A 20-FOOT WIDE EASEMENT.
6. A VERTICAL SEPARATION OF 18 INCHES MUST BE MAINTAINED BETWEEN THE WATERMAIN AND SANITARY SEWERS, STORM SEWERS, OR OTHER PROPOSED UTILITIES.
7. ALL GATE VALVES SHALL BE RESILIENT WEDGE OR SEATED TYPE GATE VALVE (E.I.J.W. OR U.S. PIPE).
8. RESTRAINED ROODED JOINTS SHALL BE USED AT ALL VERTICAL BONDS. THE NUMBER OF RESTRAINED ROODED JOINTS REQUIRED SHALL BE DETERMINED BY THE MANUFACTURER, SUBJECT TO APPROVAL BY THE CITY ENGINEER.
9. USE HYDRANT CONNECTION DETAILS PER CURRENT CITY STANDARD DETAIL SHEET.

**SANITARY SEWER NOTES:**

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION OVER THAT WORK.
2. ALL PROPOSED SANITARY SEWER PIPE SHALL BE PVC TRUSS CENTERED IN A 20-FOOT WIDE EASEMENT.
3. ALL PROPOSED SANITARY SEWER BUILDING LEADS WILL BE SOLID WALL PVC SDR 23.5 PIPE.
4. SANITARY SEWER DROP CONNECTIONS MUST BE EXTERNAL TYPE.
5. THE MINIMUM SLOPE FOR 8" SANITARY BUILDING LEADS IS 1.00%.  
6. ALL PROPOSED SEWERS SHALL HAVE CHEMICALLY WELDED JOINTS.

**STORM SEWER NOTES:**

1. PROPOSED STRUCTURE COVERS/GRATES SHALL BE PROVIDED AS REQUIRED ON THE CITY OF ROCHESTER HILLS STANDARD DETAIL SHEETS.
2. EDGE DRAIN TO BE 20" IN EACH DIRECTION AT 90° ANGLES FROM INLET STRUCTURES LOCATED IN PAVED AREAS.
3. STRUCTURAL CALCULATIONS AND SHOP DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER (REGISTERED IN THE STATE OF MICHIGAN) SHALL BE SUBMITTED TO THE CITY FOR REVIEW PRIOR TO CONSTRUCTION OF ALL STORM SEWER STRUCTURES GREATER THAN 8 FEET IN DIAMETER.
4. PROPOSED ROOF DRAINS SHALL BE SCHEDULE 40 PVC PIPE WITH CHEMICALLY WELDED JOINTS.
5. PROPOSED STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS IV WITH RUBBER GASKETS AND CLASS B BEDDING.

**UTILITY NOTES:**

1. M.D.O.T. CLASS II BACKFILL TO BE COMPACTED IN 8" LAYERS TO 85% OF MAXIMUM UNIT WEIGHT, ABOVE REQUIRED UNDER OR WITHIN A 1 ON 1 SLOPE OF EXISTING OR PROPOSED PAVEMENT.
2. ALL CONTRACTORS SHALL NAME ZEIMET-WOZNAK & ASSOCIATES AS ADDITIONALLY INSURED ON ALL INSURANCE POLICIES.

**TREE PROTECTION NOTES:**

1. APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE. THE CITY'S LANDSCAPE CONSULTANT SHALL BE NOTIFIED AFTER TREE PROTECTION IS IN PLACE, PRIOR TO THE CONSTRUCTION ACTIVITIES INCLUDING DELIVERY OF MATERIALS.
2. NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINES.
3. GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINE OF PROTECTED TREES.
4. DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
5. ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
6. SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED TREES.
7. IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
8. REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.

NOT FOR CONSTRUCTION  
CITY FILE 09-002

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
SITE PLAN REVIEW	4/20/09										
PER CITY COMMENTS	5/26/09	DAB									
SP SUBMITTAL	5/26/09	DAB									
PER FIRE MARSHALL	10/12/09	JWF									

**ZEIMET WOZNAK & ASSOCIATES**  
Civil Engineers & Land Surveyors  
4000 GRAND RIVER AVE, SUITE 100  
ROCHESTER HILLS, MI 48066  
7: (248) 448-1101; F: (248) 448-1241 www.zwassoc.com

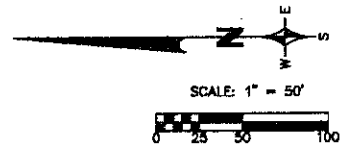
**ZEIMET WOZNAK & ASSOCIATES**  
1-800-282-7171

PROJECT SPONSOR:  
LIBERTY CONSTRUCTION CO.  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

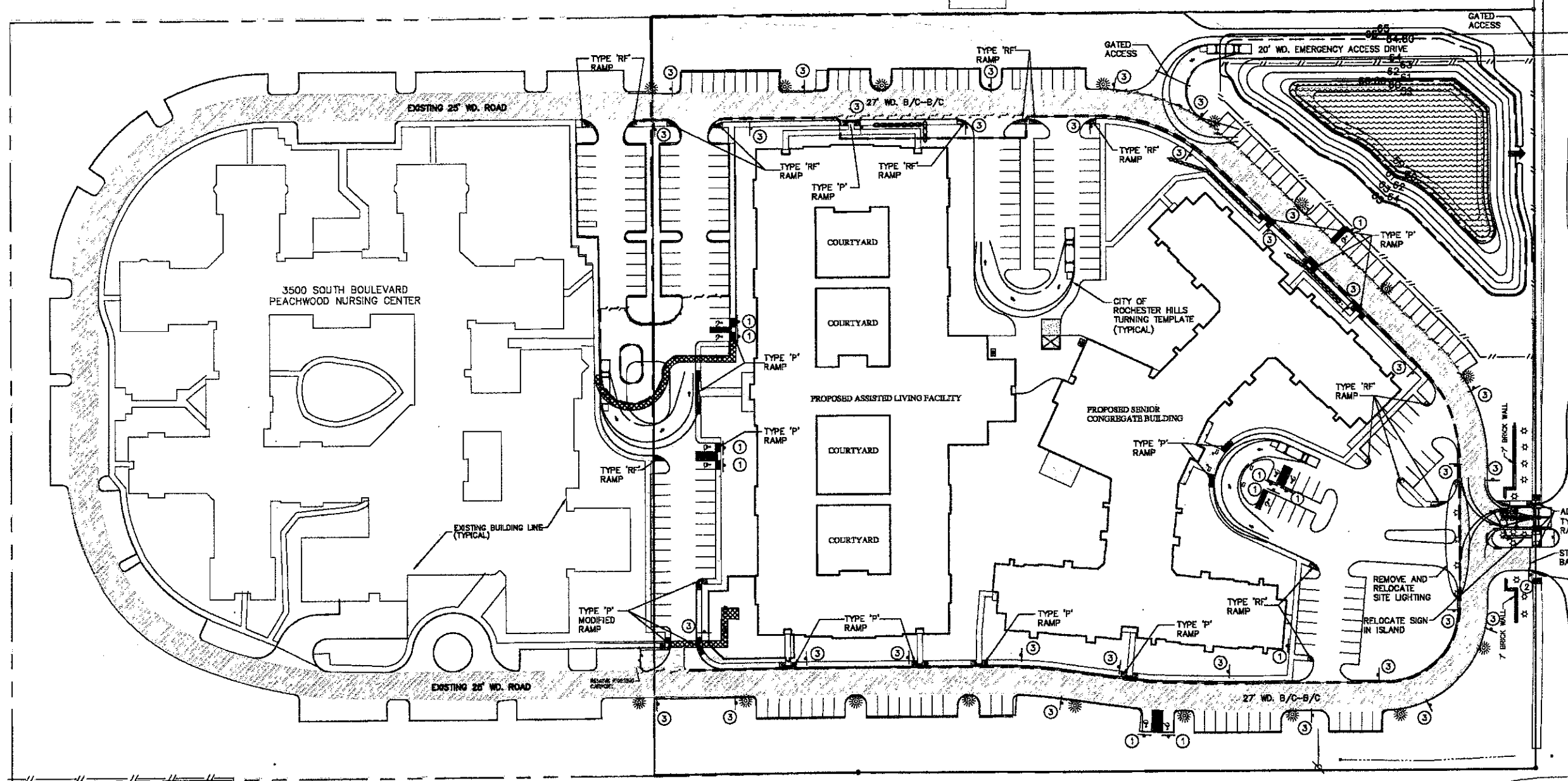
**NOTES**  
**BOULEVARD HILLS NURSING CENTER**  
ROCHESTER HILLS, MICHIGAN

DATE: 4/30/09 SCALE: HORIZ 1" = 80'  
DESIGNED BY: JWF JOB NO.: 06158  
DRAWN BY: JWF SHEET: SP-1

H:\Projects\09\09041818 SITE PLAN.dwg, 11/20/2009 12:28:42 PM, 0/0/0

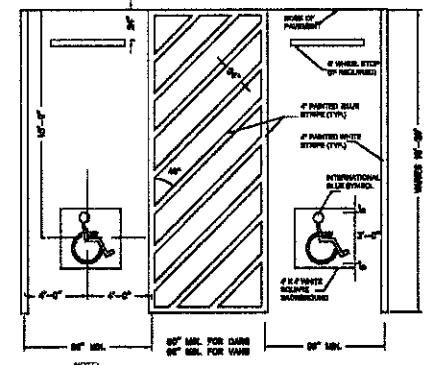


UNIT #8 3858 GREENWOOD  
 UNIT #7 3900 GREENWOOD  
 UNIT #6 3918 GREENWOOD  
 UNIT #5 3930 GREENWOOD  
 UNIT #4 3944 GREENWOOD  
 UNIT #3 3958 GREENWOOD  
 UNIT #2 3972 GREENWOOD  
 UNIT #1 3986 GREENWOOD

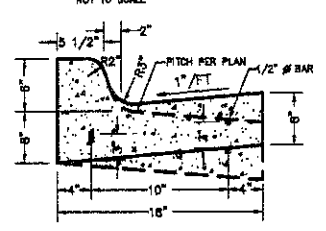


S. LINE SEC. 31  
 S. SOUTH BOULEVARD (60' WD., 1/2 WIDTH)

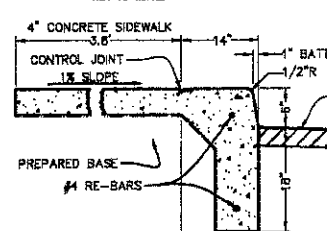
**BARRIER FREE PARKING DETAIL:**



**TYPE "A" CURB AND GUTTER:**



**INTEGRAL CURB-WALK DETAIL:**



**PAVEMENT SPECIFICATIONS:**

ASPHALT DRIVE AND PARKING:  
 1.5" MDOT HMA 13A ON  
 1.5" MDOT HMA 3C ON  
 8" 21AA AGGREGATE BASE  
 (COMPACTED TO 95% MAX.  
 UNIT DENSITY)

CONCRETE SIDEWALK:  
 4" AIR ENTRAINED 3500 PSI CONCRETE ON  
 8" SAND BASE (COMPACTED TO 95%  
 MAX. UNIT DENSITY)

(PAVEMENT SECTIONS SUBJECT TO OWNER'S  
 GEOTECHNICAL ENGINEER'S RECOMMENDATIONS)

**PAVEMENT REMOVAL LEGEND:**

SAWCUT PAVEMENT  
 REMOVE CURB AND GUTTER  
 REMOVE SIDEWALK  
 MILL AND CAP WITH 2" OF  
 MDOT HMA 13A ASPHALT

**SIGN LEGEND:**

① RESERVED FOR HANDICAPPED  
 VAN ACCESSIBLE (11 TOTAL)

② STOP (1 TOTAL)

③ NO STOPPING OR STANDING IN PARKING FIRE LANE  
 R7-14  
 12x18  
 (32 TOTAL)

\* FIRE LANE SIGNS SHALL BE POSTED ON BOTH SIDES OF THE FIRE LANE FACING THE DIRECTION OF TRAVEL AND SPACED NOT MORE THAN 100 FEET APART.

NOT FOR CONSTRUCTION  
 CITY FILE 09-002

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
SITE PLAN REVIEW	4/30/08							
PER CITY COMMENTS	5/29/08	DAB						
BP SUBMITTAL	5/29/08	DAB						
PER FIRE MARSHALL	10/12/08	JWJ						

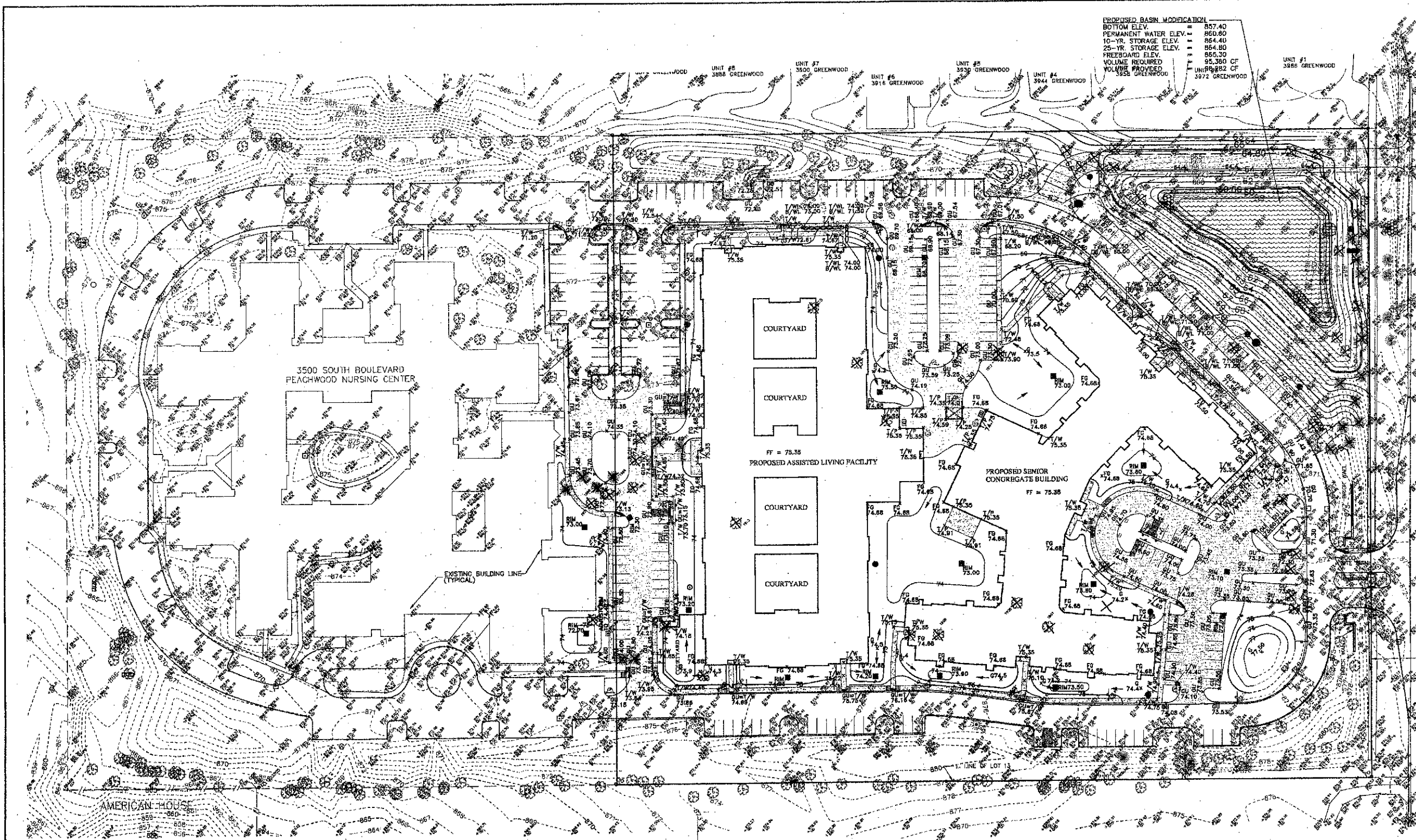
**ZEIMET WOZNAK**  
 A ASSOCIATES  
 Civil Engineers & Land Surveyors  
 4024 GRAND BLVD, SUITE 100  
 ROYAL OAK, MICHIGAN 48075  
 P: (248) 443-1103 F: (248) 443-1241 www.zeimetwoznak.com

**LIBERTY CONSTRUCTION CO.**  
 25480 TELEGRAPH ROAD, SUITE 100  
 SOUTHFIELD, MI 48034

**PROJECT SPONSOR:**  
 LIBERTY CONSTRUCTION CO.  
 25480 TELEGRAPH ROAD, SUITE 100  
 SOUTHFIELD, MI 48034

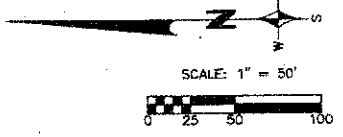
**PRELIMINARY PAVING PLAN**  
**BOULEVARD HILLS NURSING CENTER**  
 ROCHESTER HILLS, MICHIGAN

DATE: 4/30/08 SCALE: HOR: 1" = 50'  
 VERT: 1" = 10'  
 DESIGNED BY: JWJ JOB NO: 06158  
 DRAWN BY: SWB SHEET: SP-2



**PROPOSED BASIN MODIFICATION**

BOTTOM ELEV.	857.40
PERMANENT WATER ELEV.	860.80
10-YR. STORAGE ELEV.	864.40
25-YR. STORAGE ELEV.	864.80
FREEBOARD ELEV.	865.30
VOLUME REQUIRED	65,300 CF
VOLUME PROVIDED	UNIT #1 3886 GREENWOOD
	UNIT #2 3930 GREENWOOD
	UNIT #3 3916 GREENWOOD
	UNIT #4 3944 GREENWOOD
	UNIT #5 3972 GREENWOOD



**BENCHMARK:**  
RAILROAD SPIKE IN  
UTILITY POLE ON SOUTH  
SIDE OF SOUTH BOULEVARD  
ACROSS FROM SITE ENTRANCE  
ELEVATION: 870.51  
U.S.G.S. DATUM

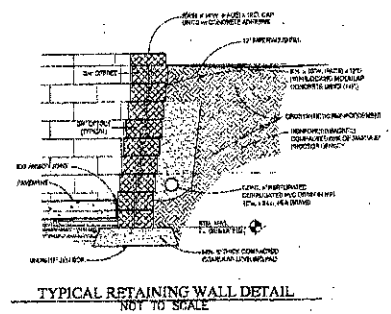
**LEGEND**

EXISTING	
○	MANHOLE
□	CATCH BASIN
◇	INLET
○	CLEANOUT
○	END SECTION
○	ROOF DRAIN
○	GATE VALVE
○	HYDRANT
○	WATER SHUT-OFF
○	UTILITY POLE
○	GUY ANCHOR
○	LIGHT POLE
○	SIGN
○	TREE
---	TREE LINE
---	SANITARY SEWER
---	STORM SEWER
---	WATER MAIN
---	GAS MAIN
---	ELECTRIC CABLE
---	CONTOUR MAJOR
---	CONTOUR MINOR
---	+100.00
---	SPOT ELEVATION

PROPOSED	
●	MANHOLE
■	CATCH BASIN
◇	INLET
○	CLEANOUT
○	END SECTION
○	ROOF DRAIN
○	GATE VALVE
○	HYDRANT
○	WATER SHUT-OFF
○	TREE REMOVAL
---	SANITARY SEWER
---	STORM SEWER
---	WATER MAIN
---	② DITCH
---	CONTOUR MAJOR
---	CONTOUR MINOR
---	PROPOSED GRADE
X	T/C = TOP OF CURB
T/W	TOP OF WALK
T/P	TOP OF PAYEMENT
T/B	TOP OF BANK
G	GROUND
D	DITCH
GU	GUTTER
FG	FINISH GRADE
FF	FINISH FLOOR
BF	BASEMENT FLOOR
BL	BRICK LEDGE
→	EMERGENCY OVERFLOW ROUTE

S. LINE SEC. 31  
E. SOUTH BOULEVARD (60' WD., 1/2 WIDTH)  
60' R.O.W.



**NOTE:**  
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
PER CITY COMMENTS	4/30/09										
PER FIRE MARSHALL	6/29/09	DAB									
	8/29/09	DAB									
	10/12/09	JAW									

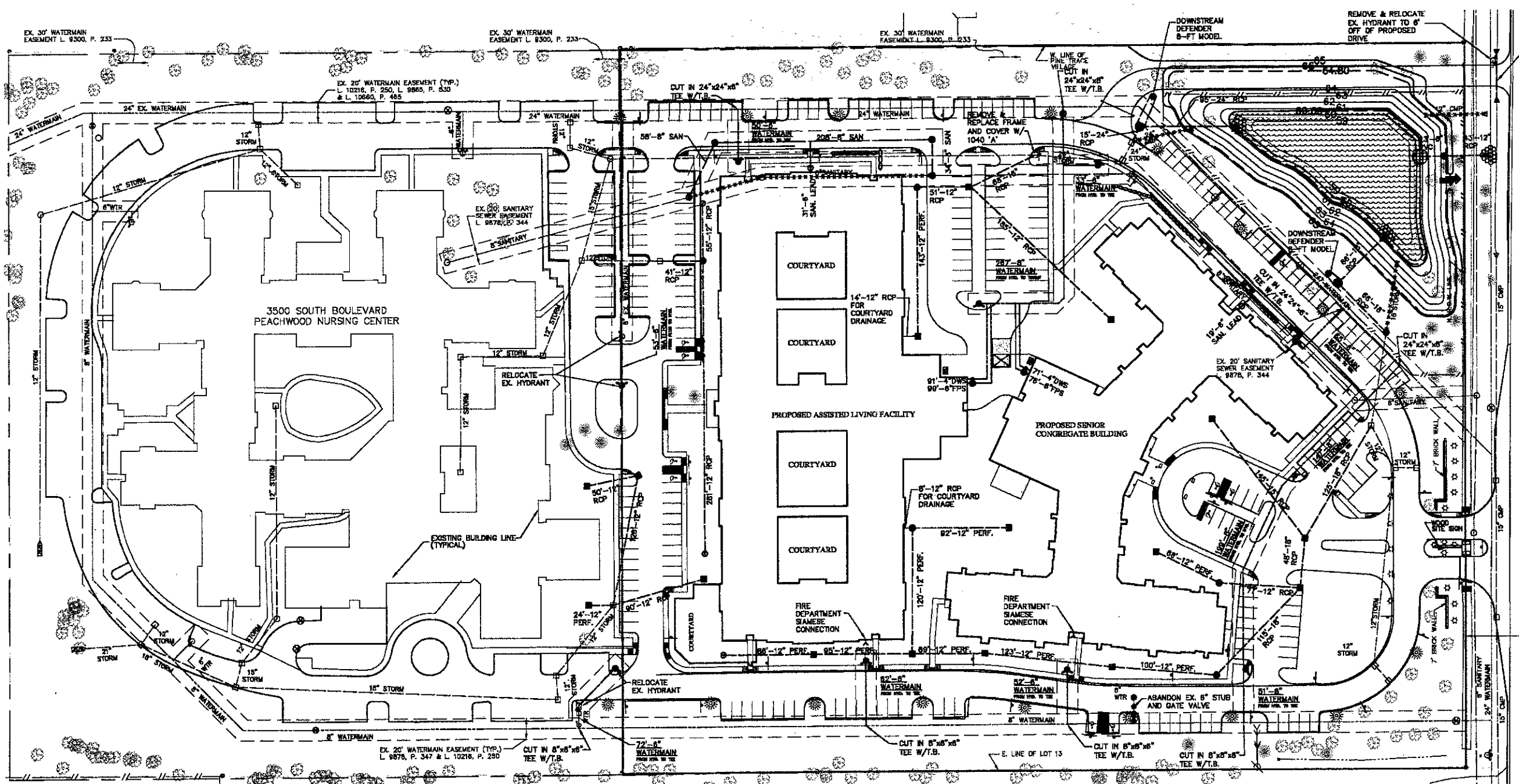
**ZELMET WOZNIAK**  
ASSOCIATES  
Civil Engineers & Land Surveyors  
4024 GRAND RIVER AVENUE, SUITE 100  
ROCHESTER HILLS, MICHIGAN 48065  
P: (248) 442-1101 F: (248) 442-1241 www.zelmetwozniak.com

**THREE PILL**  
WALKING DAVIS  
BEFORE YOU DIG,  
CALL THE BUREAU  
DIG SYSTEM  
1-800-882-7171

**PROJECT SPONSOR:**  
LIBERTY CONSTRUCTION CO.  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

**PRELIMINARY GRADING PLAN**  
BOULEVARD HILLS NURSING CENTER  
ROCHESTER HILLS, MICHIGAN

NOT FOR CONSTRUCTION  
CITY FILE 09-002  
DATE: 4/30/09 SCALE: HOR: 1" = 50'  
VER: 1" = NA  
DESIGNED BY: JAW JOB NO: 06158  
DRAWN BY: SRB SHEET SP-3



SCALE: 1" = 50'

EXISTING

- MANHOLE
- CATCH BASIN
- INLET
- CLEANOUT
- END SECTION
- ROOF DRAIN
- GATE VALVE
- HYDRANT
- WATER SHUT-OFF
- UTILITY POLE
- GUY ANCHOR
- LIGHT POLE
- SIGN
- TREE
- TREE LINE
- SANITARY SEWER
- STORM SEWER
- WATER MAIN
- GAS MAIN
- ELECTRIC CABLE

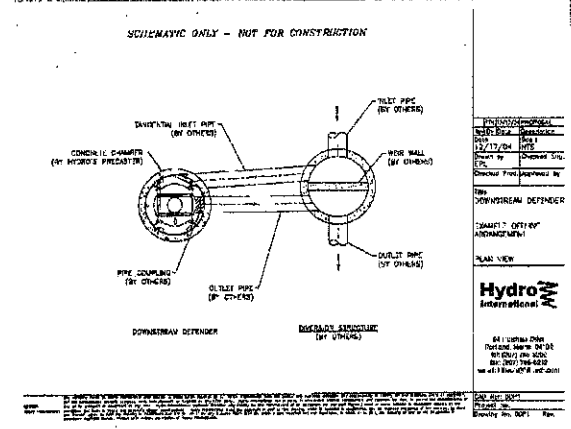
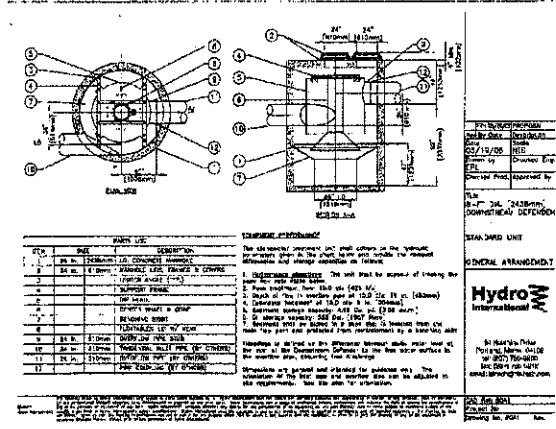
PROPOSED

- MANHOLE
- CATCH BASIN
- INLET
- CLEANOUT
- END SECTION
- ROOF DRAIN
- GATE VALVE
- HYDRANT
- WATER SHUT-OFF
- TREE REMOVAL
- SANITARY SEWER
- REMOVE SANITARY SEWER
- STORM SEWER
- REMOVE STORM SEWER
- WATER MAIN
- ABANDON WATER MAIN
- DITCH
- EMERGENCY OVERFLOW ROUTE

**SANITARY SEWER BASIS OF DESIGN**

- Existing flow from Peachwood Nursing Center:  
(from approved construction plans by ZWA, Project 85148)  
The peak daily flow rate is 0.16 cfs.  
For as-built plans the controlling sewer is 8" diameter at 0.31%.  
This equates to a capacity of 0.62 cfs.
- Proposed flow from Boulevard Hills Nursing Center:  
Assisted Living Facility:  
Number of Beds = 144  
REU\* = 1.0 + 0.5/bed x 144 beds = 73 REUs  
Senior Congregate Building:  
Number of Beds = 64  
REU\* = 1.0 + 0.5/bed x 64 beds = 33 REUs  
Total REU = 73 + 33 = 106 REUs  
Total People = 3.5 people/REU x 106 REU = 371 people  
Average Daily Flow = 100 gpcpd x 371 people / (7.5 x 24 x 3600) = 0.057 cfs  
Peaking Factor = (18 + 0.371) / (4 + 0.371) = 4.04 use 4.0  
Peak Daily Flow = 100 gpcpd x 4.0 x 371 people / (7.5 x 24 x 3600) = 0.228 cfs
- Total Flow to Existing 8" Sewer:  
Peak Daily Flow = 0.16 cfs + 0.228 cfs = 0.388 cfs  
Since the existing sewer has a capacity of 0.62 cfs, which is greater than the total Peak Daily Flow, the existing 8" sewer has sufficient capacity.  
\* REU per Oakland County Residential Equivalent User Table (REU)\*

**WATERMAIN NOTE:**  
WATERMAIN CONNECTIONS SHALL BE COORDINATED WITH THE CITY AND ADJOINING PROPERTY OWNER TO MINIMIZE DOWNTIME. IF THE EXISTING FACILITY CANNOT ACCEPT SHORT-TERM SHUT-DOWNS, THEN TEMPORARY WATER SERVICE OR OTHER MEASURES MUST BE PROVIDED DURING CONSTRUCTION.



**Hydro International-  
Downstream Defender Design Chart**

Model Number	Treatment Flow rate (cfs)	Peak Operating Flow rate (cfs)	Maximum Inlet Pipe Diameter (inches)	Minimum Outlet Pipe Diameter (inches)	Headloss at Peak Treatment Flow (feet)	Continuous Oil Storage Capacity (gallons)	5-gal Containment Capacity (gallons)	Sediment Storage Capacity (cubic yards)	Unit Diameter (feet)
4-FT	1.3	3.0	12	12	6	70	188	0.70	4
6-FT	4.1	9.0	18	18	8	230	634	2.10	6
8-FT	8.4	15.0	24	24	9	325	1,054	4.55	8
10-FT	17.7	25.0	30	30	10	1,060	3,057	8.70	10

NOTE:  
SEE SHEET SP-3 FOR SIZING CALCULATIONS.

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
REVISION 1	4/30/08	DAB	REVISION 2	5/28/08	DAB	REVISION 3	5/28/08	DAB	REVISION 4	10/12/08	JWW

**ZIMET WOZNIAK**  
Civil Engineers & Surveyors  
4000 GRAND BLVD, SUITE 100  
ROYAL OAK, MICHIGAN 48067  
7:04E 482-1181; 7:04E 482-1241 www.zimetwoznia.com

**THREE PILL WORKING DAYS BEFORE YOU USE CALL THE MAIN 800 SYSTEM**  
1-800-882-7171

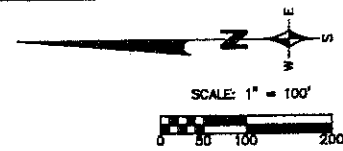
**PROJECT SPONSOR:**  
LIBERTY CONSTRUCTION CO.  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

**PRELIMINARY UTILITY PLAN**  
BOULEVARD HILLS NURSING CENTER  
ROCHESTER HILLS, MICHIGAN

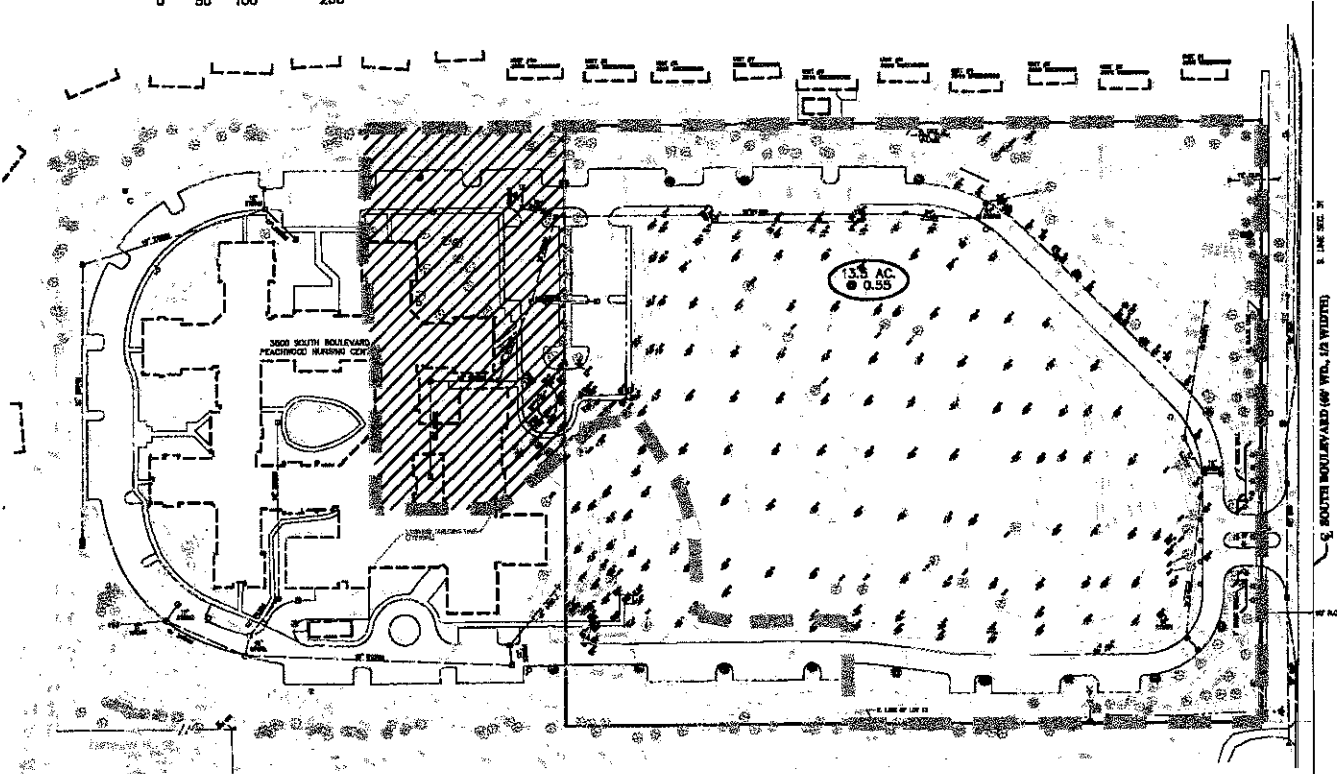
**NOT FOR CONSTRUCTION**  
CITY FILE 09-002

DATE: 4/30/08 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
DRAWN BY: JWW JOB NO. 08158  
CHECKED BY: JWW SHEET SP-4





CONTRIBUTING DRAINAGE AREA FROM BOULEVARD NURSING CENTER (FORMERLY PEACHWOOD NURSING CENTER)



PRE-DEVELOPMENT CONDITIONS

**STORMWATER MANAGEMENT ANALYSIS:**

**A. OVERVIEW**

A vacant 12.86 acre parcel of land (that was once part of a larger 22.37 acre parcel) is proposed to be developed into a senior congruence building and assisted living facility. When it was master planned in 1985 - then known as "Peachwood Nursing Center" - a stormwater basin was constructed to accommodate runoff from this parcel in accordance with the City's standards at that time. The existing basin shall continue to serve this parcel but shall be modified as necessary to meet the City's current requirements.

**B. PRE-DEVELOPMENT DESIGN**

Per records from 1985:  
 A = 13.5 ac.  
 C = 0.55  
 $Q_{allowable} = 1.32 \text{ cfs}$   
 $Q_p = 1.32 + (13.5 \times 0.55) = 0.18 \text{ cfs/ac-imp}$   
 $T_{10} = -25 + (6562.5 + 0.18)^{0.25} = 165.94 \text{ min}$   
 $V_{s,10} = [(10,500 \times 165.94) / (25 + 165.94)] - (40 \times 0.18 \times 165.94) = 7,930.45 \text{ cfs/ac-imp}$   
 $V_{t,10} = 7,930.45 \times 0.55 \times 13.5 = 58,900 \text{ cf}$

The original basin was designed to store 63,460 cf. The basin presently stores a volume of 45,905 cf (using a permanent water at Elev. 861.0 and a 10-year storage at Elev. 857.0) based on measurements of the existing basin.

**C. POST-DEVELOPMENT DESIGN**

The basin will now serve a drainage area (A) of 13.06 acres of which 11.06 acres represents the new project and 2.0 acres represents the older existing nursing center.

Determine new runoff coefficient:

Impervious	Area (ac)	C	Weighted C
Pavement / Roof	7.49 ac	0.95	7.11
Lawn / Grass	5.25 ac	0.25	1.31
Water	0.32 ac	1.00	0.32
	13.06		8.74

$c = 8.74 / 13.06 = 0.67 \rightarrow \text{Use } 0.70$

**Allowable Discharge**

$Q_p = 13.06 \text{ ac} \times 0.20 \text{ cfs/ac} = 2.61 \text{ cfs}$   
 Per City Engineer, use  $Q_p = 1.20 \text{ cfs}$

$Q_p = 1.20 + (13.06 \times 0.70) = 0.131 \text{ cfs/ac-imp}$

**10-Year Storage for Basin Drainage Area**

$T_{10} = -25 + (6,562.5 + 0.131)^{0.25} = 198.82 \text{ min}$   
 $V_{s,10} = [(10,500 \times 198.82) / (25 + 198.82)] - (40 \times 0.131 \times 198.82) = 9,327.18 \text{ cfs/ac-imp}$   
 $V_{t,10} = 9,327.18 \times 0.70 \times 13.06 = 85,262 \text{ cf}$

**25-Year Storage for Basin Drainage Area**

$T_{25} = -25 + (8,062.5 + 0.131)^{0.25} = 223.08 \text{ min}$   
 $V_{s,25} = [(12,900 \times 223.08) / (25 + 223.08)] - (40 \times 0.131 \times 223.08) = 10,431.07 \text{ cfs/ac-imp}$   
 $V_{t,25} = 10,431.07 \times 0.70 \times 13.06 = 95,260 \text{ cf}$

**D. AVAILABLE STORAGE**

Because of limited space, the existing basin can be expanded by regrading the sidewalls (but only so much because of limited space):

Elevation	Area (sf)	Avg. Area (sf)	Depth (ft)	Volume (cf)	Cum. Vol. (cf)
860.6	14,077	14,895	0.4	5,958	5,958
861	15,713	17,800	1.0	17,800	23,758
862	19,886	22,047	1.0	22,047	45,805
863	24,208	26,564	1.0	26,564	72,369
864	28,919	31,291	1.0	31,291	103,660
864.8	35,863	37,291	0.8	29,833	133,493

Thus, the 25-year storm storage elevation is at 864.80 (V=98,282 cf)  
 By interpolation, the 10-year storm storage elevation is at 864.40 (V=85,317 cf)

**E. MECHANICAL TREATMENT DEVICE SIZING**

Units shall be sized to treat the peak flow rate of the 1-year, 0.5" storm event.

Northley Unit:

Contributing area = 6.47 acres  
 Runoff coefficient, C = 0.70  
 $I = 72(T+25) = 72(15+25) = 180$   
 $Q_{peak} = CIA = 0.70 \times 1.80 \times 6.47 = 8.15 \text{ cfs}$

Use a Downstream Defender Model 9-FT in an offline configuration.

Barterly Unit:

Contributing area = 4.71 acres  
 Runoff coefficient, C = 0.70  
 $I = 72(T+25) = 72(15+25) = 180$   
 $Q_{peak} = CIA = 0.70 \times 1.80 \times 4.71 = 5.93 \text{ cfs}$

Use a Downstream Defender Model 9-FT in an offline configuration.

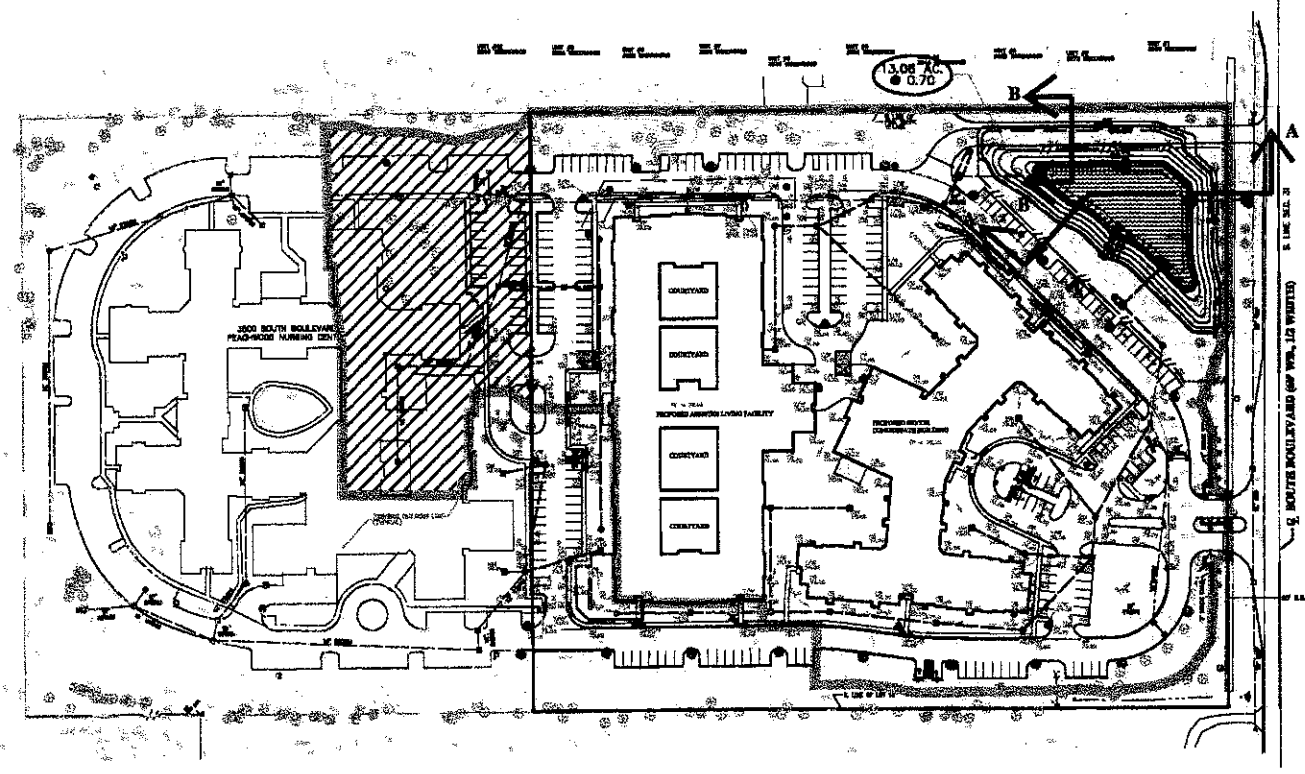
**F. OUTLET SIZING**

Reservoir pipe:  
 $A = Q / (0.62 \sqrt{2gh})^{0.5}$   
 $Q = 2.61 \text{ cfs}$   
 $H = 864.8 - 860.6 = 4.2'$   
 $A = 2.61 / (0.62 \sqrt{2 \times 32.2 \times 4.2})^{0.5} = 0.2559 \text{ ft}^2$   
 This equates to a 6.8" orifice. Use a 6" outlet pipe.

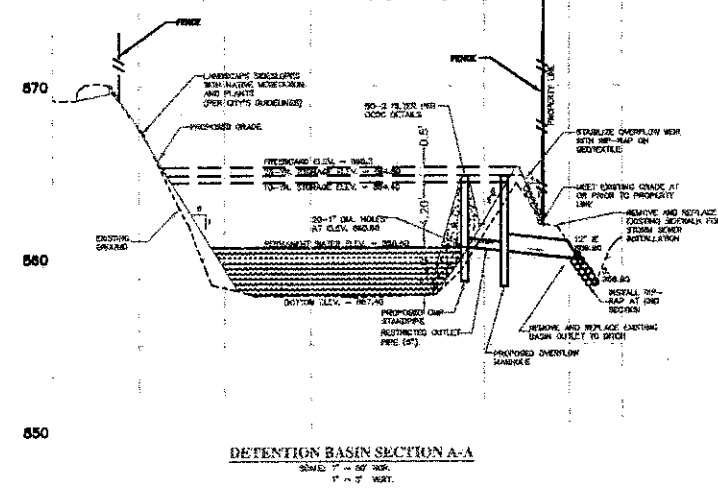
Standpipe orifice:  
 $A = 0.3988(A_m \sqrt{h})^{0.5} / 172,800 = 0.3988(353664 \times 2)^{0.5} / 172,800$   
 $A = 0.1074 \text{ ft}^2$

Number of 1" dia. holes =  $0.1074 / 0.0055 = 19.5$

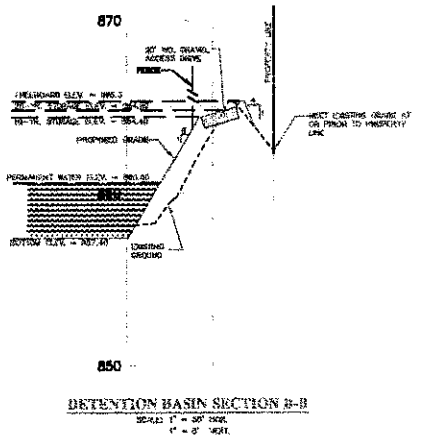
Use 20-1" diameter holes in standpipe. Set lowest holes at elev. 860.60.



POST-DEVELOPMENT CONDITIONS



DETENTION BASIN SECTION A-A  
 SCALE: 1" = 10' HOR.  
 1" = 2' VERT.



DETENTION BASIN SECTION B-B  
 SCALE: 1" = 10' HOR.  
 1" = 2' VERT.

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REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
SITE PLAN REVIEW	4/20/08							
PER CITY COMMENTS	8/28/08	DAB						
3P SUBMITTAL	9/28/08	DAB						
PER PRR MARSHALL	10/12/08	JWJ						

**ZIMET WOZNAK & ASSOCIATES**  
 Civil Engineers & Land Surveyors  
 4000 GRAND RIVER AVE, SUITE 100  
 SOUTHWEST CORNER 4875  
 SOUTH MERIDIAN AVE  
 P. (248) 442-1100 F. (248) 442-1241 www.zimmetwoznak.com

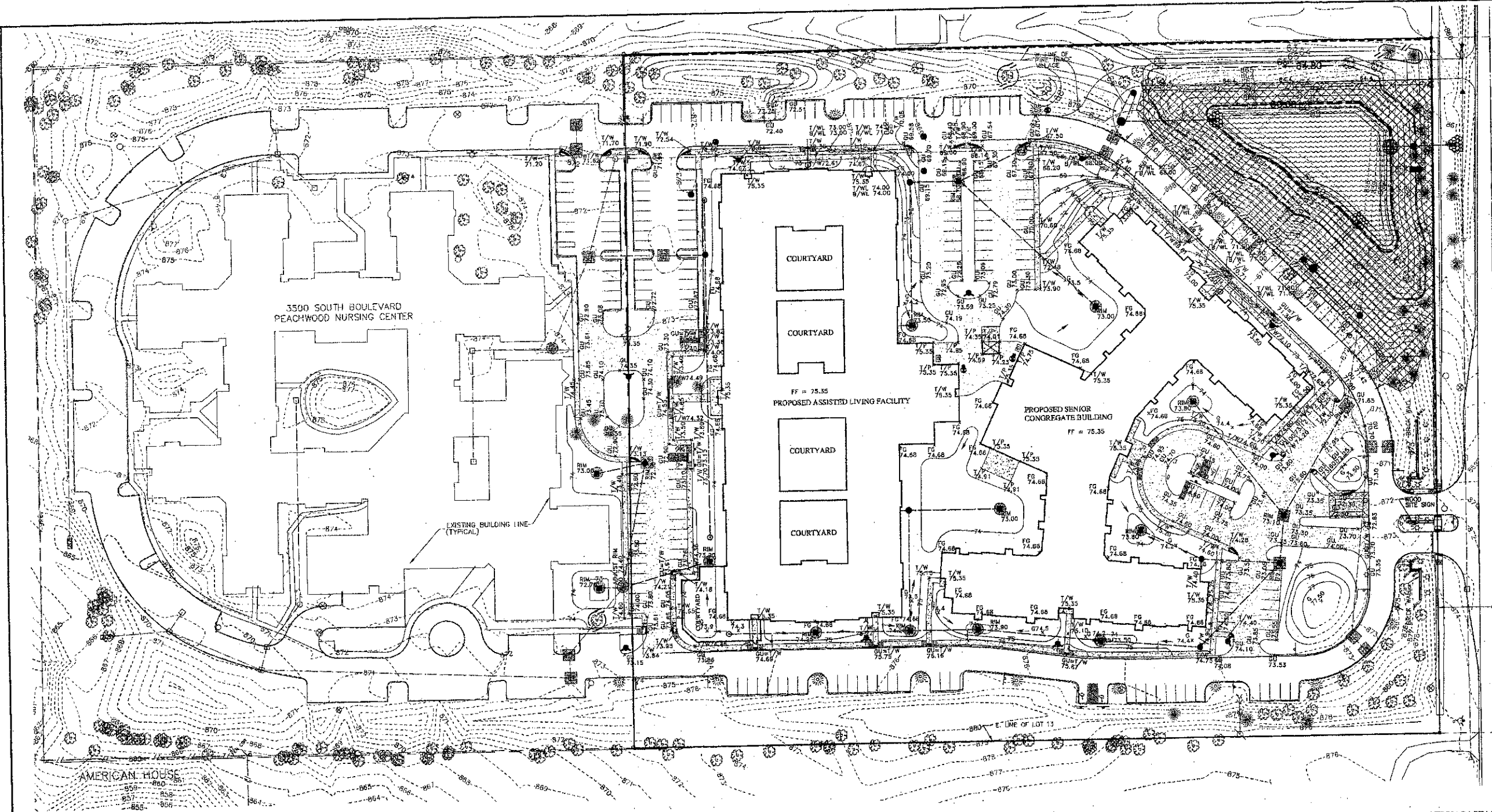
**THOMAS PYLE ENGINEERING**  
 3000 WOODLAND DRIVE  
 SOUTHFIELD, MI 48034  
 1-800-422-7377

**PROJECT SPONSOR:**  
 LIBERTY CONSTRUCTION CO.  
 25480 TELEGRAPH ROAD, SUITE 100  
 SOUTHFIELD, MI 48034

**PRELIMINARY STORMWATER MANAGEMENT**  
**BOULEVARD HILLS NURSING CENTER**  
 ROCHESTER HILLS, MICHIGAN

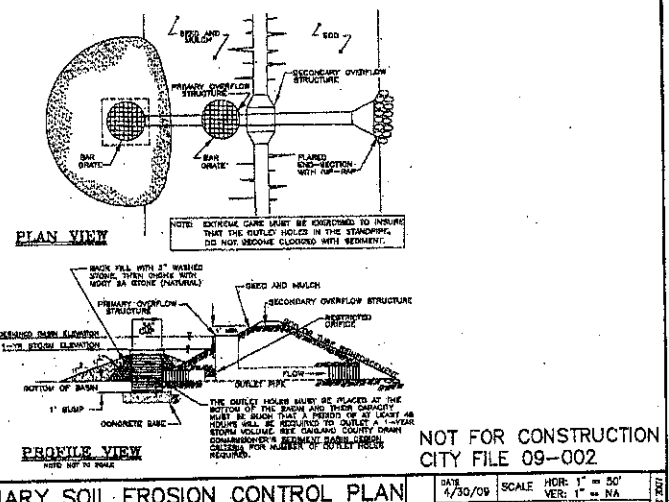
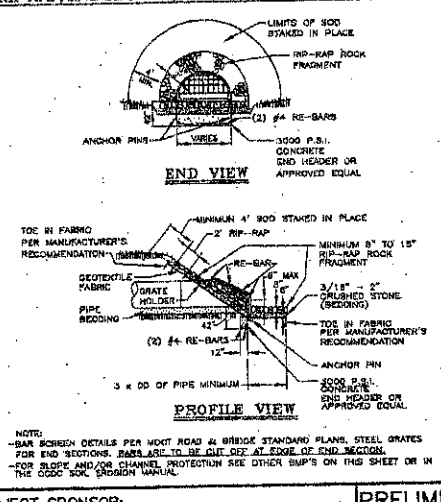
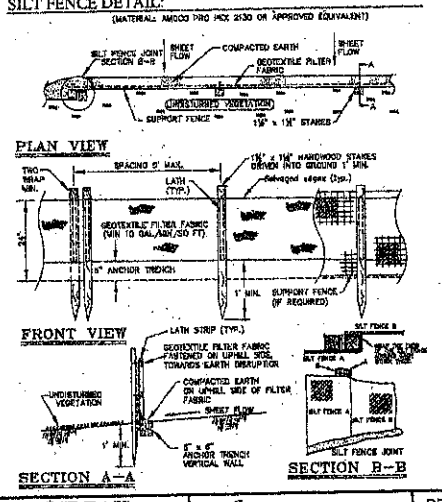
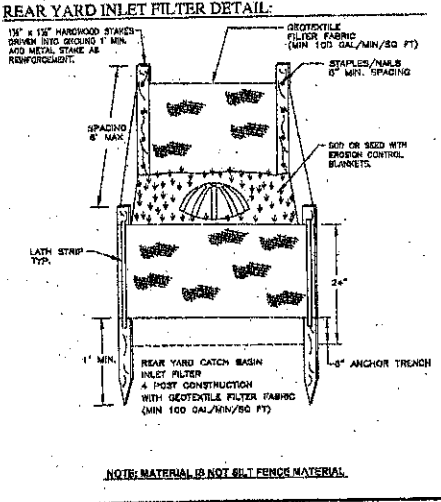
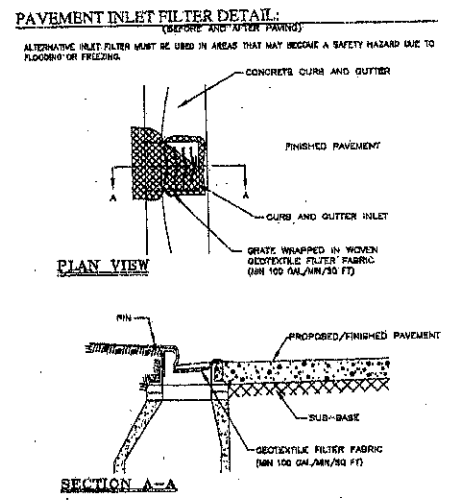
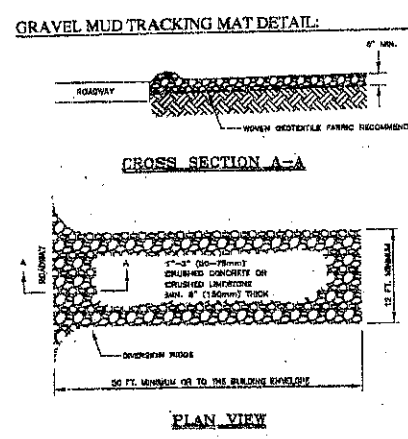
**NOT FOR CONSTRUCTION**  
 CITY FILE 09-002

DATE: 4/20/08 SCALE: HOR. 1" = 100'  
 DESIGNED BY: JWW VERT. 1" = 10'  
 CHECKED BY: JWW JOB NO.: 06158  
 DRAWN BY: JWW SHEET: SP-5



- EROSION CONTROL LEGEND:**
- GEOTEXTILE SILT FENCE
  - ORANGE TREE FENCE
  - GRAVEL MUD TRACKING MAT
  - PAVEMENT INLET FILTER
  - REAR YARD INLET FILTER
  - SEED AND STAKED STRAW MULCH BLANKET
  - DETENTION BASIN OUTLET FILTER
  - RIP-RAP

**NOTE:**  
THIS PLAN ILLUSTRATES THE MINIMUM EROSION CONTROLS NEEDED TO PREVENT SILTS FROM LEAVING THE SITE AND IS SUBJECT TO CHANGE AS CONDITIONS IN THE FIELD WARRANT.



REVISIONS	DATE	BY	REVISIONS	DATE	BY
SITE PLAN REVIEW	4/30/09				
PER CITY COMMENTS	6/29/09	DAB			
SP SUBMITTAL	9/29/09	DAB			
PER FIRE MARSHALL	10/12/09	JWV			

**ZEIMET WOZNAK ASSOCIATES**  
Civil Engineers & Land Surveyors  
4024 GRAND RIVER AVE. SUITE 100  
NOVI, MICHIGAN 48240  
P: (248) 412-1101 F: (248) 442-1241 www.zeimetwoznak.com

**THREE PEAR WORKING DRAWING**  
BEFORE PROCEEDING, CALL THE REG. DIG SYSTEM  
1-800-483-7151

**PROJECT SPONSOR:**  
LIBERTY CONSTRUCTION CO.  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

**PRELIMINARY SOIL EROSION CONTROL PLAN**  
BOULEVARD HILLS NURSING CENTER  
ROCHESTER HILLS, MICHIGAN

**NOT FOR CONSTRUCTION**  
CITY FILE 09-002

**DATE:** 7/30/09 **SCALE:** HOR: 1" = 50' VER: 1" = NA  
**DESIGNED BY:** JWV **JOB NO.:** 06158  
**DRAWN BY:** SPB **SHEET:** SP-6

EX. 30' WATERMAIN EASEMENT L. 9300, P. 233

EX. 30' WATERMAIN EASEMENT L. 9300, P. 233

INGRESS-EGRESS AND UTILITY EASEMENT L. 9227, P. 605

EX. 30' WATERMAIN EASEMENT L. 9300, P. 233

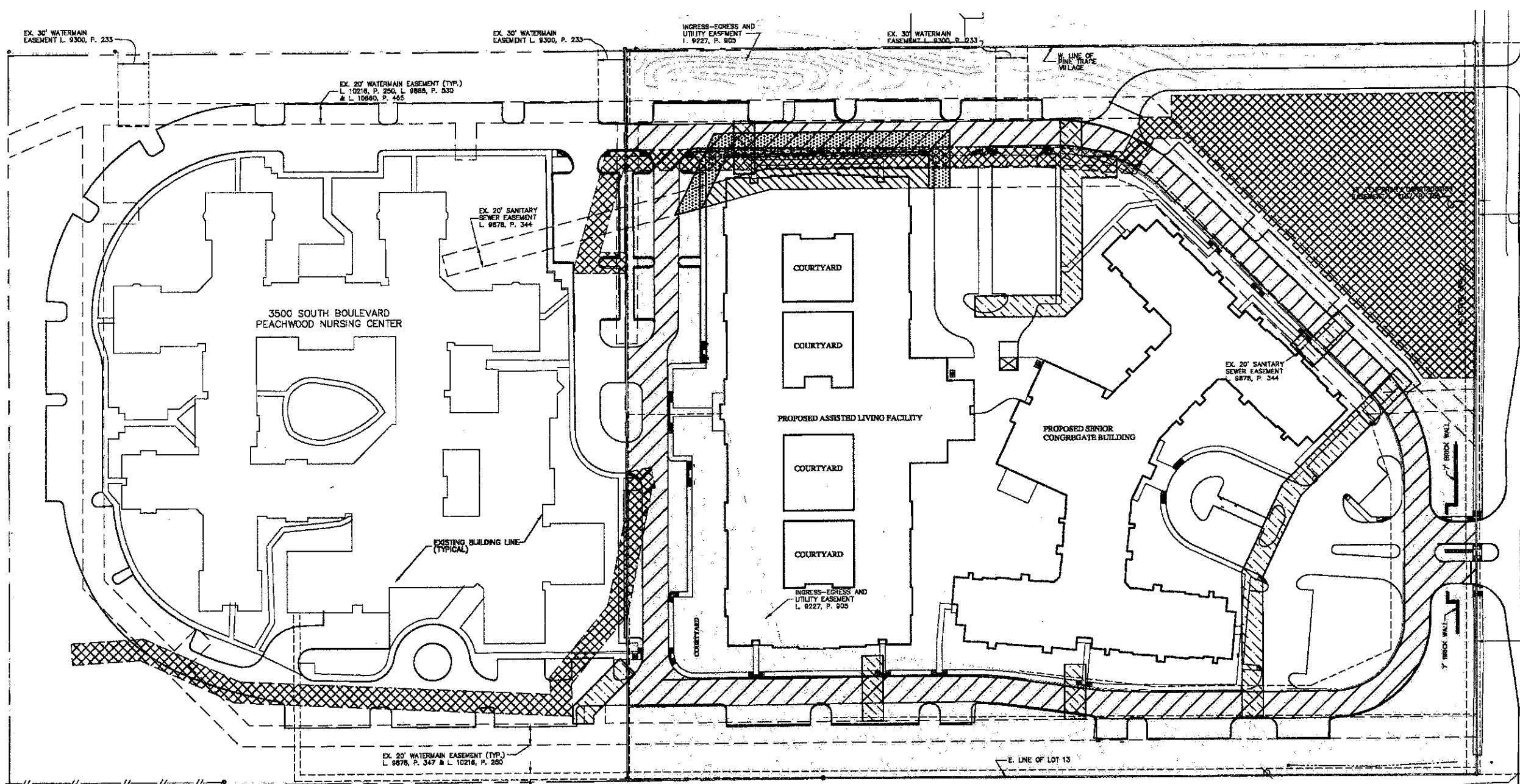
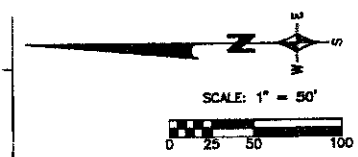
EX. 20' WATERMAIN EASEMENT (TYP.) L. 10216, P. 250, L. 9868, P. 330 & L. 10860, P. 465

EX. 20' SANITARY SEWER EASEMENT L. 9878, P. 344

EX. 20' SANITARY SEWER EASEMENT 9878, P. 344

EX. 20' WATERMAIN EASEMENT (TYP.) L. 9878, P. 347 & L. 10216, P. 250

EX. 6' PRIVATE EASEMENT FOR PUBLIC UTILITIES L. 9363, P. 283



S. LINE SEC. 31

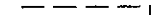




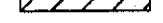

57' SANITARY 1 L. 7157, P. 731

E. SOUTH BOULEVARD (60' WD., 1/2 WIDTH)

60' R.O.W.

E. LINE OF LOT 13

**EASEMENT LEGEND**

-  EXISTING EASEMENT
-  PROPOSED PUBLIC WATERMAIN EASEMENT
-  PROPOSED PUBLIC SANITARY SEWER EASEMENT
-  PROPOSED RECIPROCAL PRIVATE STORM SEWER EASEMENT
-  EXISTING SANITARY SEWER EASEMENT TO BE VACATED
-  PROPOSED PUBLIC INGRESS / EGRESS EASEMENT
-  EXISTING INGRESS / EGRESS AND UTILITIES EASEMENT TO BE VACATED

NOT FOR CONSTRUCTION  
CITY FILE 09-002

REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
PER CITY COMMENTS	6/28/09	DAB									
SP SUBMITTAL	8/26/09	DAB									
PER FIRE MARSHALL	10/12/09	JW									

**ZIMET WOZNAK & ASSOCIATES**  
Civil Engineers & Land Surveyors  
4004 GRAND RIVER AVE. SUITE 100  
ROYAL OAK, MICHIGAN 48075  
P: (248) 443-1181 F: (248) 443-1241 www.zimetwoznak.com

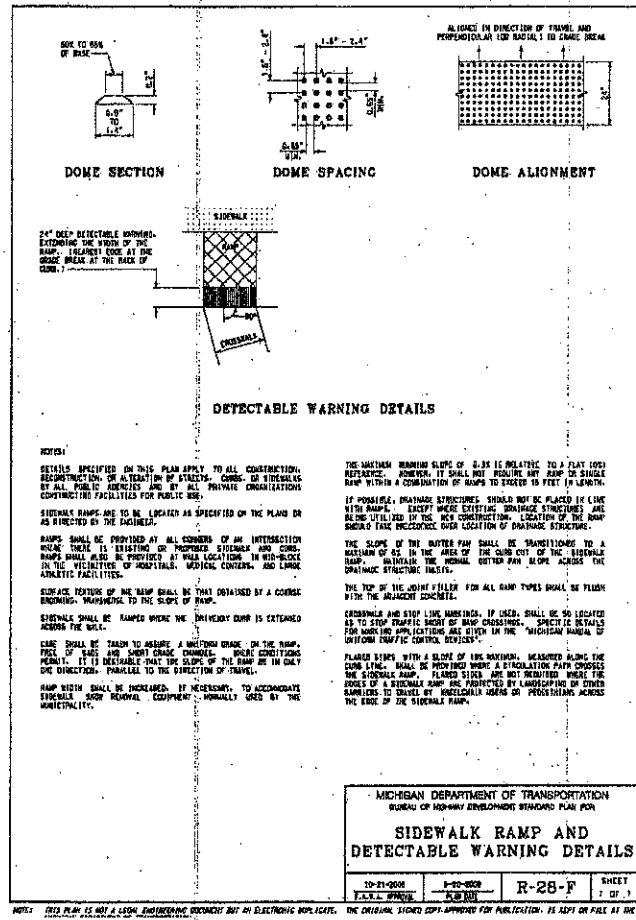
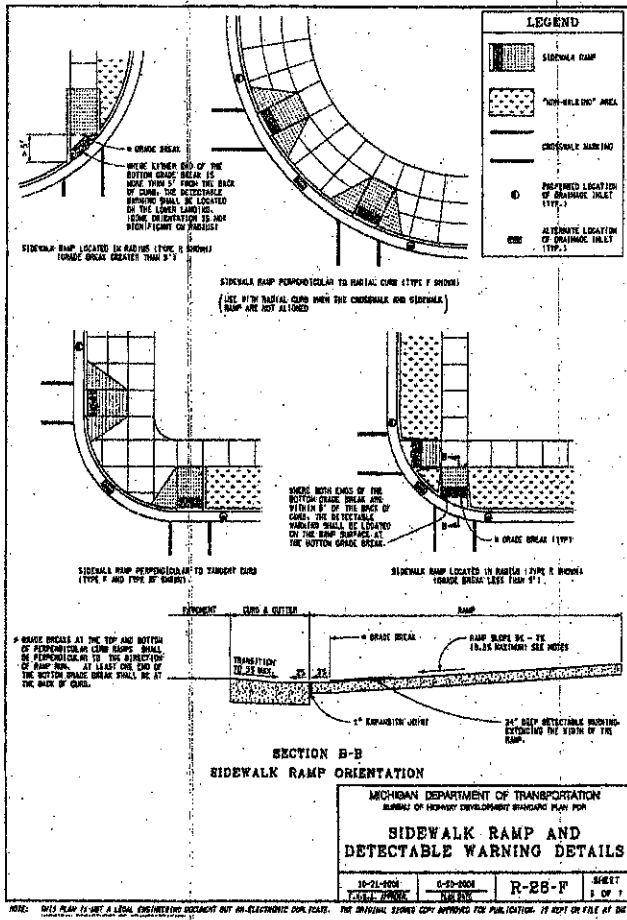
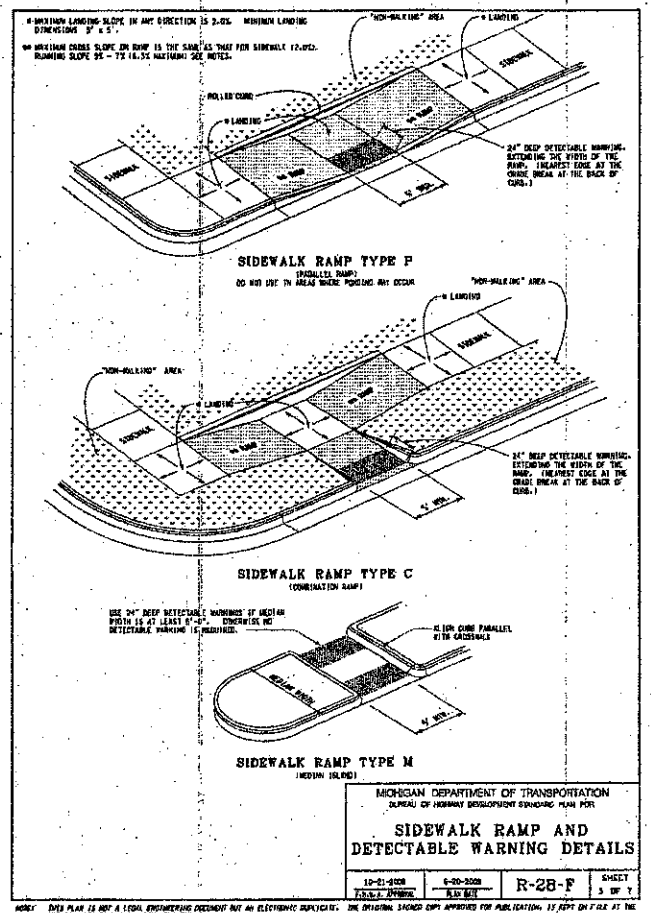
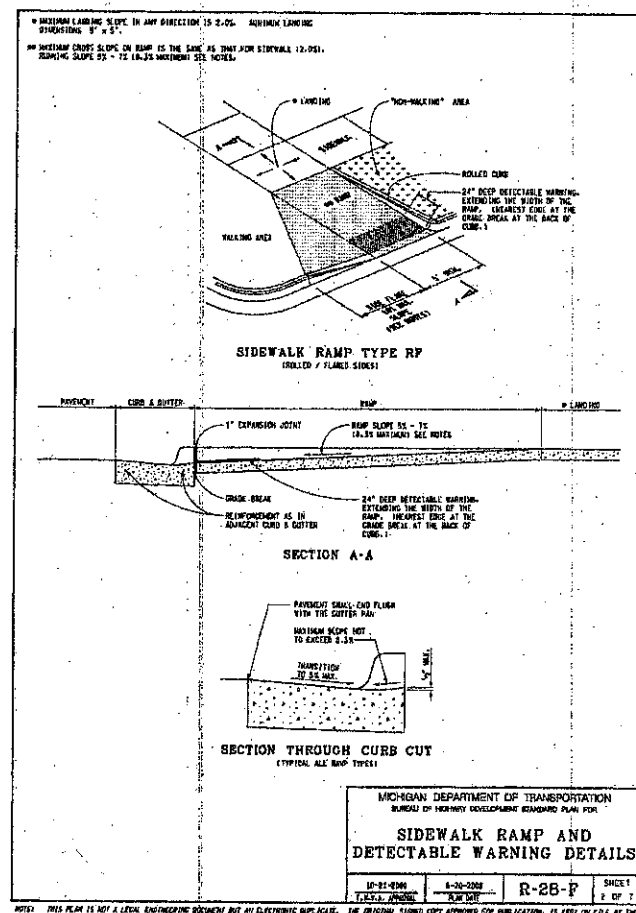
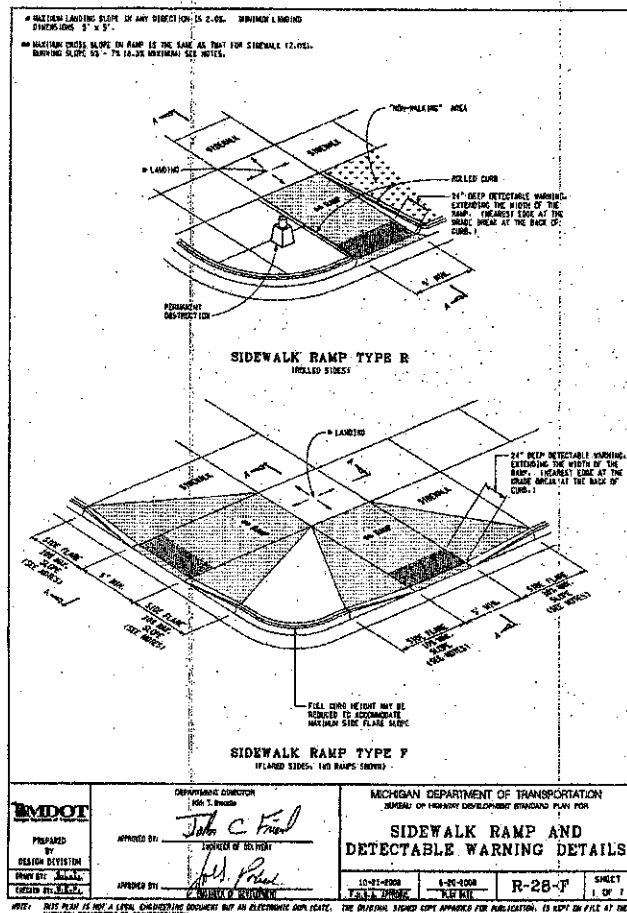
**PLANNING CONSULTANTS, INC.**  
1-800-882-7171

PROJECT SPONSOR:  
**LIBERTY CONSTRUCTION CO.**  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

**PRELIMINARY EASEMENT PLAN**  
**BOULEVARD HILLS NURSING CENTER**  
ROCHESTER HILLS, MICHIGAN

DATE: 6/28/09 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
DESIGNED BY: J.W. JOB NO.: 0615B  
DRAWN BY: DAB SHEET: SP-7

15/09/2009 12:50:12 PM, 6010000000



REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY	REVISIONS	DATE	BY
5th SUBMITTAL	9/29/09	DAB									
PER FIRE MARSHALL	10/12/09	JUN									

**ZIMET WOZNAK**  
A ASSOCIATES  
Civil Engineers & Land Surveyors  
4000 CASANOVA DRIVE, SUITE 100  
NOVI, MICHIGAN 48275  
P: (248) 442-1101 F: (248) 442-1241 www.zimetwoznak.com

**THREE PILL WORKING DAYS BEFORE YOU DIG. CALL-THE MICHIGAN MISS AND SYSTEM INC. 1-800-442-7171**

PROJECT SPONSOR:  
LIBERTY CONSTRUCTION CO.  
25480 TELEGRAPH ROAD, SUITE 100  
SOUTHFIELD, MI 48034

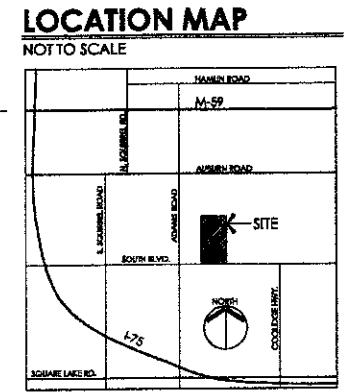
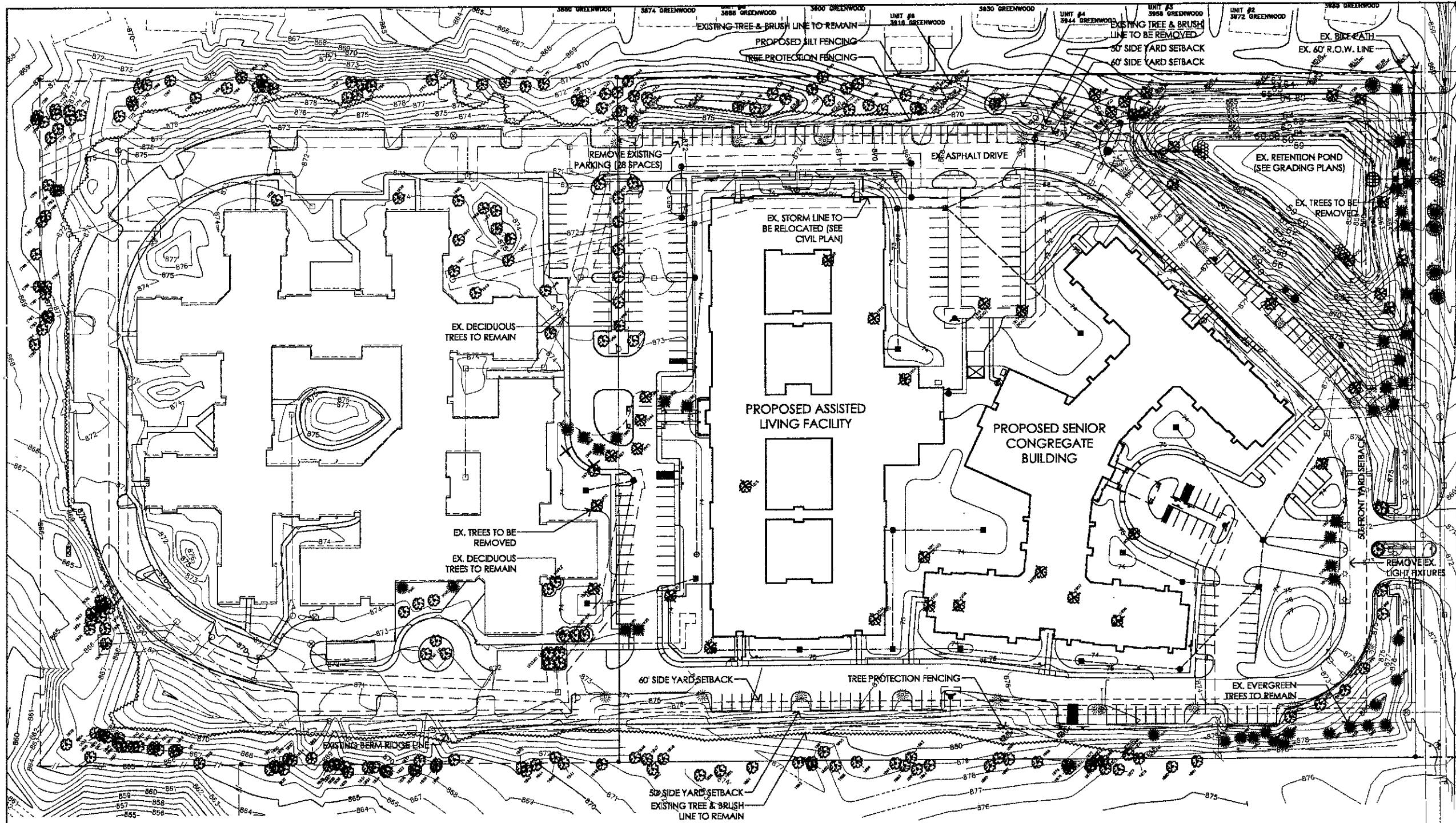
**WALK DETAILS**  
**BOULEVARD HILLS NURSING CENTER**  
ROCHESTER HILLS, MICHIGAN

DATE: 7/10/08 SCALE: HOR: 1" = 8' VER: 1" = 4'  
DRAWN BY: JMW JOB NO.: 06158  
CHECKED BY: SRS SHEET: SP-8

NOT FOR CONSTRUCTION CITY FILE 09-002

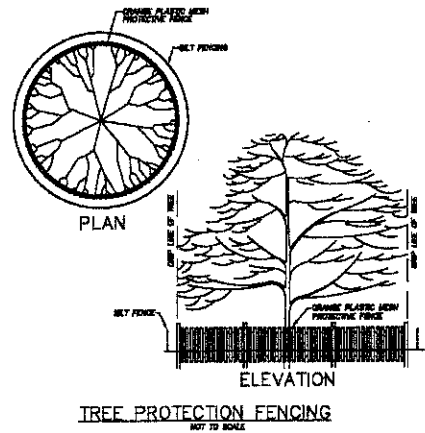
10/20/2008 11:27:50 AM C:\p00000001\06158\06158-SP-8.DWG





**TREE PROTECTION/ REMOVAL NOTES**

1. APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE. THE CITY'S LANDSCAPE CONSULTANT SHALL BE NOTIFIED AFTER TREE PROTECTION IS IN PLACE, PRIOR TO CONSTRUCTION ACTIVITIES, INCLUDING DELIVERY OF MATERIALS.
2. NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINES.
3. GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINES OF PROTECTED TREES.
4. DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
5. ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
6. SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED TREES.
7. IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
8. REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.



**TREE PRESERVATION CALCULATIONS**

TOTAL NUMBER OF TREES SURVEYED:	263
MINUS OFF SITE TREES:	-48
MINUS ASH TREES:	-2
MINUS DEAD (NON ASH) TREES:	-1
TOTAL NUMBER OF REGULATED TREES ON SITE:	212
MINUS NUMBER OF REGULATED TREES REMOVED:	-63
TOTAL NUMBER OF REGULATED TREES PRESERVED:	149
TOTAL NUMBER OF REPLACEMENT TREES REQUIRED:	63
TOTAL NUMBER OF REPLACEMENT TREES PROVIDED:	63

SEE EXISTING TREE SURVEY, SHEET L-2.

**PLEASE NOTE:**  
ALL EFFORTS WILL BE MADE TO PRESERVE ANY EXISTING TREES (CURRENTLY DESIGNATED AS A REMOVAL) THAT ARE NOT IMMEDIATELY IMPACTED BY GRADING AND/OR CONSTRUCTION.

NOTE: ALL QUANTITIES ARE LANDSCAPE ARCHITECT'S ESTIMATES. THESE QUANTITIES ARE NOT TO BE TAKEN AS DEFINING OR LIMITING THE AMOUNT OF WORK TO BE DONE UNDER THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN ESTIMATES. ALL DISCREPANCIES ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECT'S OFFICE IMMEDIATELY. ALL DESIGNS, CONCEPTS, DETAILS, ETC. ARE THE PROPERTY OF JAMES C. SCOTT & ASSOCIATES, INC., AND MAY NOT BE DUPLICATED, PHOTOGRAPHED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF JAMES C. SCOTT, OWNER. COPYRIGHT 2008

**BOULEVARD HILLS NURSING CENTER ROCHESTER HILLS, MI**

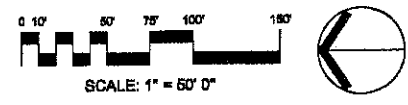
**TREE PRESERVATION PLAN**

**JAMES C. SCOTT & ASSOCIATES**

landscape architects • site planners  
300 S. WYOMING RD., SUITE 120, BLOOMFIELD HILLS, MI 48304  
(248) 646-5564 (248) 646-6338

4/20/09  
6/29/09  
9/18/09  
1/28/09  
BMW  
1" = 60' 0"

**L-1**



Tag No.	Scientific Name	Common Name	Diam. 1	Diam. 2	Condition	Notes	Action
1701	Pinus strobus	White Pine	8.2		Fair		Remove
1702	Pinus strobus	White Pine	10.7		Fair		Remove
1703	Pinus strobus	White Pine	8.3		Fair		Remove
1704	Pinus strobus	White Pine	6.5		Fair		Remove
1705	Pinus strobus	White Pine	7.4		Fair		Remove
1706	Acer saccharum	Sugar Maple	7.1		Fair		Remove
1707	Pinus strobus	White Pine	8.2		Fair		Remove
1708	Pinus strobus	White Pine	8.7		Fair		Remove
1709	Acer saccharum	Sugar Maple	6.5		Fair		Remove
1710	Juglans nigra	Black Walnut	18.7		Good		Remove
1711	Juglans nigra	Black Walnut	18.5		Good		Remove
1712	Pinus strobus	White Pine	8.0		Fair		Remove
1713	Pinus strobus	White Pine	6.0		Fair		Remove
1714	Pinus strobus	White Pine	9.0		Fair		Remove
1715	Pinus strobus	White Pine	7.5	7.1	Fair		Remove
1716	Pinus strobus	White Pine	8.1		Fair		Remove
1717	Pinus strobus	White Pine	7.5		Fair		Remove
1718	Juglans nigra	Black Walnut	36.6		Fair	Scar on side.	Remove
1719	Quercus palustris	Pin Oak	8.4		Poor	Yellow leaves	Remove
1720	Salix alba	Weeping Willow	6.2		Fair		Remove
1721	Pinus serotina	Black Cherry	10.8		Fair	One trunk sawn off.	Remove
1722	Salix alba	Weeping Willow	8.5	6.8	Fair	Multi-trunked.	Remove
1723	Acer saccharum	Sugar Maple	7.7		Good		Remove
1724	Pinus strobus	White Pine	10.0		Good		Remove
1725	Pinus strobus	White Pine	8.2		Good		Remove
1726	Pinus serotina	Black Cherry	9.7		Very Poor	Nearly dead.	Remove
1727	Acer negundo	Box-elder	19.2		Fair		Remove
1728	Quercus velutina	Black Oak	18.8		Fair	Trumpet creeper vine.	Remove
1729	Pinus serotina	Black Cherry	18.6		Fair		Remove
1730	Pinus serotina	Black Cherry	15.4		Very Poor	One trunk dead.	Remove
1731	Pinus serotina	Black Cherry	11.5	8.0	Fair		Remove
1732	Melus pumila	Apple	8.7		Fair		Remove
1733	Pinus serotina	Black Cherry	9.8		Fair		Remove
1734	Pinus serotina	Black Cherry	14.6	7.0	Fair	3 trunks.	Remove
1735	Pinus serotina	Black Cherry	17.3		Fair		Remove
1736	Melus pumila	Apple	9.8		Fair		Remove
1737	Rhamnus cathartica	Buckthorn	8.0		Fair	Multi-trunked.	Remove
1738	Acer platanoides	Norway Maple	8.9		Fair		Remove
1739	Pinus serotina	Black Cherry	15.2	14.6	Fair	3 trunks.	Remove
1740	Pinus serotina	Black Cherry	16.7	15.9	Fair	4 trunks.	Remove
1741	Quercus velutina	Black Oak	12.4		Fair		Remove
1742	Quercus velutina	Black Oak	18.0		Fair		Remove
1743	Quercus velutina	Black Oak	17.0		Fair		Remove
1744	Quercus velutina	Black Oak	23.2		Fair		Remove
1745	Quercus velutina	Black Oak	7.5		Fair		Remove
1746	Quercus velutina	Black Oak	8.3		Fair		Remove
1747	Quercus velutina	Black Oak	6.5		Fair		Remove
1748	Quercus velutina	Black Oak	10.1		Fair		Remove
1749	Quercus velutina	Black Oak	23.6		Good		Remove
1750	Quercus velutina	Black Oak	24.2		Good		Remove
1751	Pinus serotina	Black Cherry	11.3		Fair		Remove
1752	Quercus velutina	Black Oak	9.8	7.5	Fair		Remove
1753	Quercus velutina	Black Oak	10.3		Fair		Remove
1754	Quercus velutina	Black Oak	23.0		Good		Remove
1755	Pinus serotina	Black Cherry	13.8	10.8	Fair		Remove
1756	Quercus velutina	Black Oak	22.4		Fair		Remove
1757	Quercus velutina	Black Oak	6.7		Fair		Remove
1758	Quercus velutina	Black Oak	11.4		Fair		Remove
1759	Quercus velutina	Black Oak	14.3	10.6	Good		Remove
1760	Quercus velutina	Black Oak	9.9		Fair		Remove
1761	Pinus serotina	Black Cherry	7.2		Fair		Remove
1762	Quercus velutina	Black Oak	27.1		Good		Remove
1763	Pinus serotina	Black Cherry	10.4		Fair		Remove
1764	Quercus velutina	Black Oak	28.4		Good	Offsite	Remove
1765	Pinus serotina	Black Cherry	11.1	10.0	Poor	One trunk dead.	Remove
1766	Quercus velutina	Black Oak	20.4		Good		Remove
1767	Pinus serotina	Black Cherry	28.0	15.0	Poor	Basal Rot. 3rd trunk (3.8)	Remove
1768	Sassafras albidum	Sassafras	8.7		Fair		Remove
1769	Pinus serotina	Black Cherry	8.5		Fair		Remove

EXISTING TREE LIST  
 site planners  
 landscape architects  
 300 e. long lake rd. ste. 120, bloomfield hills, nj 08304  
 (908) 248-6446/6564

ROCHESTER HILLS, NJ

BOULEVARD HILLS NURSING CENTER  
 JAMES C. SCOTT & ASSOCIATES

**TREE PRESERVATION CALCULATIONS**

TOTAL NUMBER OF TREES SURVEYED:	263
MINUS OFF SITE TREES:	-48
MINUS DEAD TREES:	-2
MINUS DEAD (NON ASH) TREES:	-1
TOTAL NUMBER OF REGULATED TREES ON SITE:	212
MINUS NUMBER OF REGULATED TREES REMOVED:	-63
TOTAL NUMBER OF REGULATED TREES PRESERVED:	149
TOTAL NUMBER OF REPLACEMENT TREES REQUIRED:	63
TOTAL NUMBER OF REPLACEMENT TREES PROVIDED:	63

SEE EXISTING TREE SURVEY, SHEET L-2.

**PLEASE NOTE:**  
 ALL EFFORTS WILL BE MADE TO PRESERVE ANY EXISTING TREES  
 (CURRENTLY DESIGNATED AS A REMOVAL) THAT ARE NOT  
 IMMEDIATELY IMPACTED BY GRADING AND/OR  
 CONSTRUCTION.

4/28/06  
 6/28/06  
 8/28/06  
 1/28/09  
 BMW  
 LA 081906.dwg

### LANDSCAPE ISLAND REQUIREMENTS

INTERIOR LANDSCAPING AREAS SHALL BE EQUIVALENT TO 5% OF THE VEHICLE USE AREA IN ALL PARKING LOTS OF 20 SPACES OR MORE. ONE DECIDUOUS SHADE TREE IS REQUIRED FOR EACH 150 SF OF INTERIOR LANDSCAPE AREA. THE VEHICLE USE AREA INCLUDES ALL AREAS USED FOR CIRCULATION AND PARKING.

**REQUIREMENTS FOR PARKING AREA 'A' (36 PARKING SPACES; 20,120 S.F. VEHICULAR USE AREA):**

	REQ'D	PROPOSED
INTERIOR LANDSCAPE AREA (5% OF 20,120sf):	1006 sf	1880 sf
DECIDUOUS TREES (1 PER 150sf OF LSCAPE AREA):	7	7

**REQUIREMENTS FOR PARKING AREA 'B' (37 PARKING SPACES; 17,400 S.F. VEHICULAR USE AREA):**

	REQ'D	PROPOSED
INTERIOR LANDSCAPE AREA (5% OF 17,400 sf):	870 sf	2,700 sf
DECIDUOUS TREES (1 PER 150sf OF LSCAPE AREA):	6	6

**REQUIREMENTS FOR PARKING AREA 'C' (77 PARKING SPACES; 36,000 S.F. VEHICULAR USE AREA):**

	REQ'D	PROPOSED
INTERIOR LANDSCAPE AREA (5% OF 36,000 sf):	1,800 sf	6,100 sf
DECIDUOUS TREES (1 PER 150sf OF LSCAPE AREA):	12	12*

\* TOTAL INCLUDES 10 EXISTING DECIDUOUS TREES

### LANDSCAPE BUFFER REQUIREMENTS

A TYPE 'B' LANDSCAPE BUFFER IS REQUIRED ALONG THE WESTERN, EASTERN, AND SOUTHERN PROPERTY LINES.

THERE IS EXISTING HEAVY BRUSH, UNDERSTORY, AND TREE COVER ALONG THE WESTERN AND EASTERN PROPERTY LINES. THESE SCREENS SHALL BE APPROPRIATELY PROTECTED, AS REQUIRED BY THE CITY OF ROCHESTER HILLS, DURING CONSTRUCTION AND SHALL BE REPLACED BY THE OWNER, SHOULD ANY ACCIDENTAL DAMAGE OCCUR. ADDITIONALLY, DECIDUOUS AND EVERGREEN TREES HAVE BEEN ADDED TO FILL ANY GAPS AND TO PROVIDE SCREENING FROM THE NEIGHBORS.

**REQUIREMENTS FOR THE WEST PROPERTY LINE IS AS FOLLOWS FOR A TYPE B BUFFER (807 L.F.):**

	REQ'D	PROPOSED
DECIDUOUS TREES (2 PER 100 L.F.):	16	16*
ORNAMENTAL TREES (1.5 PER 100 L.F.):	12	12
EVERGREEN TREES (2 PER 100 L.F.):	16	16*
SHRUBS (4 PER 100 L.F.):	32	32

A TOTAL OF 44 TREES AND 32 SHRUBS ARE REQUIRED AND HAVE BEEN PROVIDED.

\* TOTALS INCLUDE 15 EXISTING TREES (6 DECIDUOUS AND 12 EVERGREEN)

**REQUIREMENTS FOR THE EAST PROPERTY LINE IS AS FOLLOWS FOR A TYPE B BUFFER (807 L.F.):**

	REQ'D	PROPOSED
DECIDUOUS TREES (2 PER 100 L.F.):	16	20***
ORNAMENTAL TREES (1.5 PER 100 L.F.):	12	2
EVERGREEN TREES (2 PER 100 L.F.):	16	39***
SHRUBS (4 PER 100 L.F.):	32	32

A TOTAL OF 44 TREES AND 32 SHRUBS ARE REQUIRED; 60 TREES AND 32 SHRUBS HAVE BEEN PROVIDED.

\*\* TOTALS INCLUDE 21 EXISTING TREES (20 DECIDUOUS AND 1 EVERGREEN). NOTE: TREES 1730 AND 1920 ARE IN POOR CONDITION AND CANNOT BE COUNTED TOWARD MEETING THE BUFFER TREE REQUIREMENTS.

NOTE: PERMISSION WAS GRANTED BY THE CITY OF ROCHESTER HILLS LANDSCAPE ARCHITECT TO REPLACE SOME OF THE REQUIRED ORNAMENTAL TREES WITH ADDITIONAL EVERGREEN TREES TO AID IN SCREENING FROM THE NEIGHBORING HOMES.

**REQUIREMENTS FOR THE SOUTH PROPERTY LINE IS AS FOLLOWS FOR A TYPE B BUFFER (652 L.F.):**

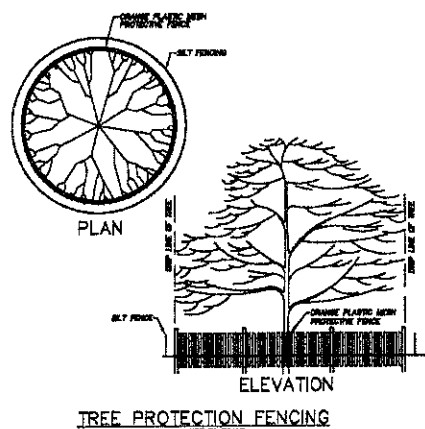
	REQ'D	PROPOSED
DECIDUOUS TREES (2 PER 100 L.F.):	13	13***
ORNAMENTAL TREES (1.5 PER 100 L.F.):	10	10***
EVERGREEN TREES (2 PER 100 L.F.):	13	13***
SHRUBS (4 PER 100 L.F.):	26	27

A TOTAL OF 36 TREES AND 26 SHRUBS ARE REQUIRED; 34 TREES AND 27 SHRUBS HAVE BEEN PROVIDED.

\*\*\* TOTALS INCLUDE 5 EXISTING TREES (1 DECIDUOUS, 1 ORNAMENTAL, AND 3 EVERGREEN)

### TREE PROTECTION/ REMOVAL NOTES

- APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE. THE CITY'S LANDSCAPE CONSULTANT SHALL BE NOTIFIED AFTER TREE PROTECTION IS IN PLACE, PRIOR TO CONSTRUCTION ACTIVITIES, INCLUDING DELIVERY OF MATERIALS.
- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINES.
- GRADE CHANGES MAY NOT OCCUR WITHIN THE DRIP LINES OF PROTECTED TREES.
- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY REMAINING TREE.
- ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
- SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED TREES.
- IF TREE PROTECTION CANNOT BE MAINTAINED FOR A TREE THROUGHOUT THE CONSTRUCTION PERIOD, REPLACEMENT OF THAT TREE MAY BE REQUIRED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
- REGULATED TREES LOCATED ON ADJACENT PROPERTY THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.



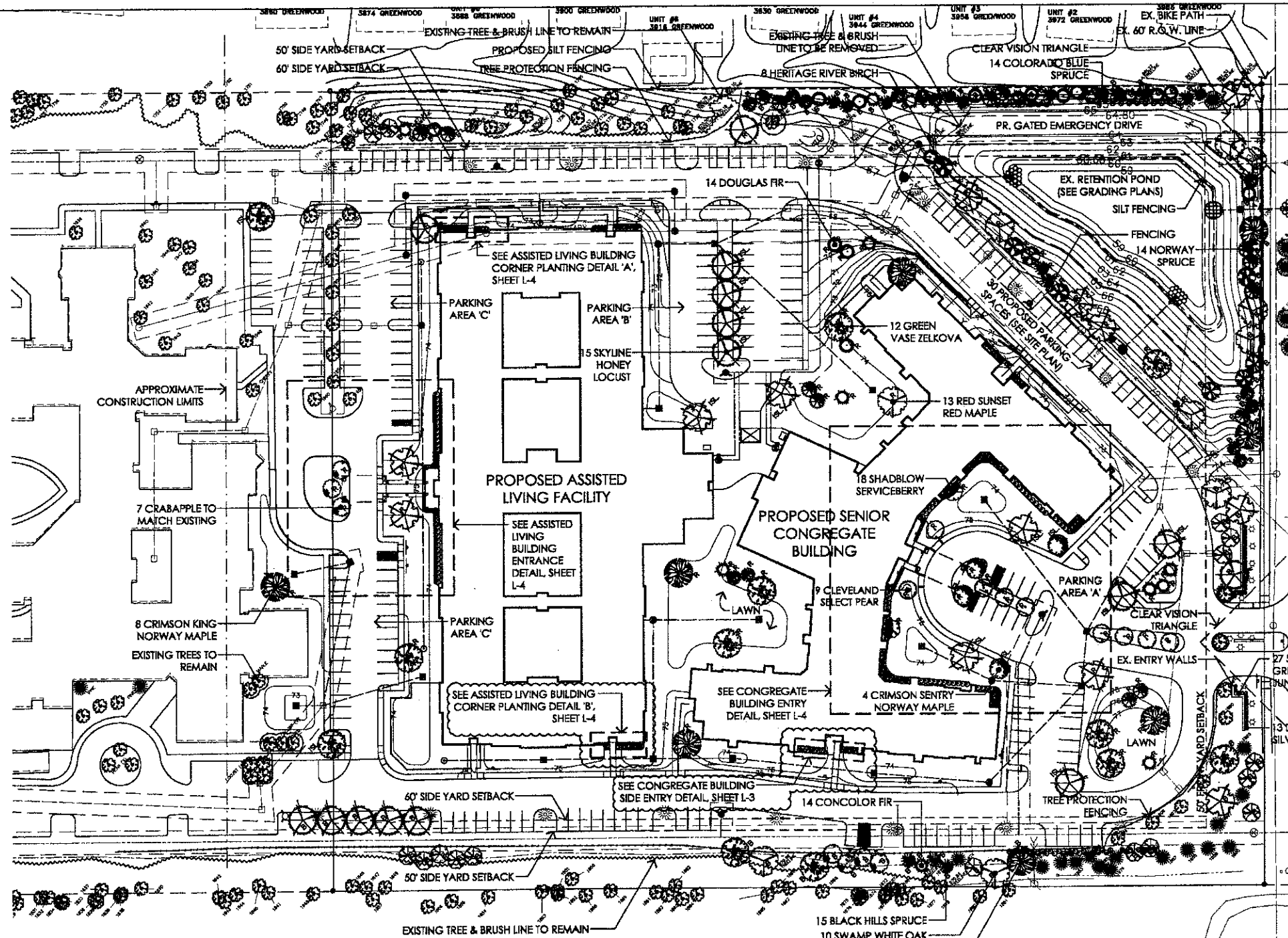
### LANDSCAPE NOTES

- ALL LAWN AREAS TO BE SODDED UNLESS OTHERWISE NOTED ON PLAN. SOD SHALL BE INSTALLED OVER AN EVENLY SPREAD LAYER OF TOPSOIL TO A GENTLY COMPACTED DEPTH NO LESS THAN 4".
- ALL LANDSCAPE BEDS TO BE DRESSED WITH SHREDDED BARK MULCH TO A MINIMUM DEPTH OF 4". ALL PROPOSED TREES IN LAWN AREAS SHALL HAVE A MULCH RING NOT LESS THAN 3" DIAMETER, TO A MINIMUM DEPTH OF 4".
- ALL LANDSCAPE BEDS TO BE EDGED WITH 1/2" x 4" ALUMINUM EDGING.
- ALL LANDSCAPE AREAS TO BE WATERED WITH AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM, PROVIDING 100% COVERAGE WHILE PLACING LAWN AREAS AND LANDSCAPE BEDS ON SEPARATE ZONES. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING IRRIGATION SYSTEM SHOULD DAMAGE OCCUR DURING INSTALLATION OF THE NEW SYSTEM. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THE LANDSCAPE UNTIL THE IRRIGATION SYSTEM IS FULLY OPERATIONAL, AS APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
- ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN A HEALTHY GROWING CONDITION WITH A NEAT AND ORDERLY APPEARANCE. THE LANDSCAPE CONTRACTOR SHALL MONITOR ALL LANDSCAPE MATERIAL DURING THE WARRANTY PERIOD. ALL DEAD OR DECLINING PLANT MATERIAL SHALL BE REPLACED IN A TIMELY MANNER, NO LATER THAN THE FOLLOWING GROWING SEASON.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE TREE STAKING AND GUYING FOR ALL NEWLY PLANTED TREES, AS REQUIRED, IN ACCORDANCE WITH CURRENT LOCAL NURSERY AND LANDSCAPE STANDARDS. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL OF ALL TREE STAKING AND GUYING WHEN APPROPRIATE, AS APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
- LANDSCAPE CONTRACTOR SHALL REPAIR ALL EXISTING LAWN AREAS TO THEIR PRE CONSTRUCTION CONDITION IF DAMAGE OCCURS DURING THE CONSTRUCTION/ INSTALLATION PROCESS.

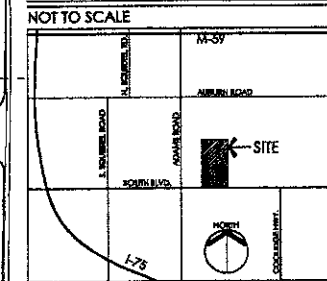
### PRELIMINARY COST ESTIMATE

ITEM	QTY.	UNIT \$	TOTAL \$
<b>REPLACEMENT TREES</b>			
DECIDUOUS SHADE TREES (3" CAL.):	25	500	12,500
ORNAMENTAL TREES (2" CAL./10' HT.):	19	350	6,650
EVERGREEN TREES (10' HT.):	19	600	11,400
			\$ 30,550
<b>BUFFER PLANTINGS</b>			
DECIDUOUS SHADE TREES (3" CAL.):	22	500	11,000
ORNAMENTAL TREES (2" CAL./10' HT.):	33	350	11,550
EVERGREEN TREES (10' HT.):	41	600	24,600
SHRUBS (30" HT. AVG.):	91	60	5,460
			\$ 52,610
<b>ISLAND TREE PLANTINGS</b>			
DECIDUOUS SHADE TREES (3" CAL.):	14	500	7,000
<b>ADDITIONAL LANDSCAPING</b>			
LANDSCAPE SHRUBS (30" HT. AVG.):	207	60	12,420
PERENNIAL COLOR (2 GAL. AVG.):	214	12	2,568
SEED LAWN:	13,500 sf	2	27,000
SHREDDED BARK MULCH:	55 cy	60	3,300
ALUMINUM EDGING:	650 lf	2	1,300
			\$ 46,588
<b>IRRIGATION</b>			
AUTOMATIC UNDERGROUND IRRIGATION SYSTEM			+/- \$ 10,000
<b>PRELIMINARY LANDSCAPE TOTAL:</b>			<b>\$ 146,740.00</b>

NOTE: ALL QUANTITIES ARE LANDSCAPE ARCHITECT'S ESTIMATES. THESE QUANTITIES ARE NOT TO BE TAKEN AS DEFINING OR LIMITING THE AMOUNT OF WORK TO BE DONE UNDER THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN ESTIMATES. ALL DISCREPANCIES ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECT'S OFFICE IMMEDIATELY. ALL DESIGNS, CONCEPTS, DETAILS, ETC. ARE THE PROPERTY OF JAMES C. SCOTT & ASSOCIATES, INC. AND MAY NOT BE DUPLICATED, PHOTOGRAPHED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF JAMES C. SCOTT, OWNER. COPYRIGHT 2020

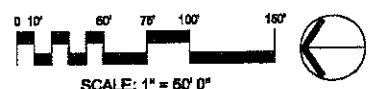


### LOCATION MAP

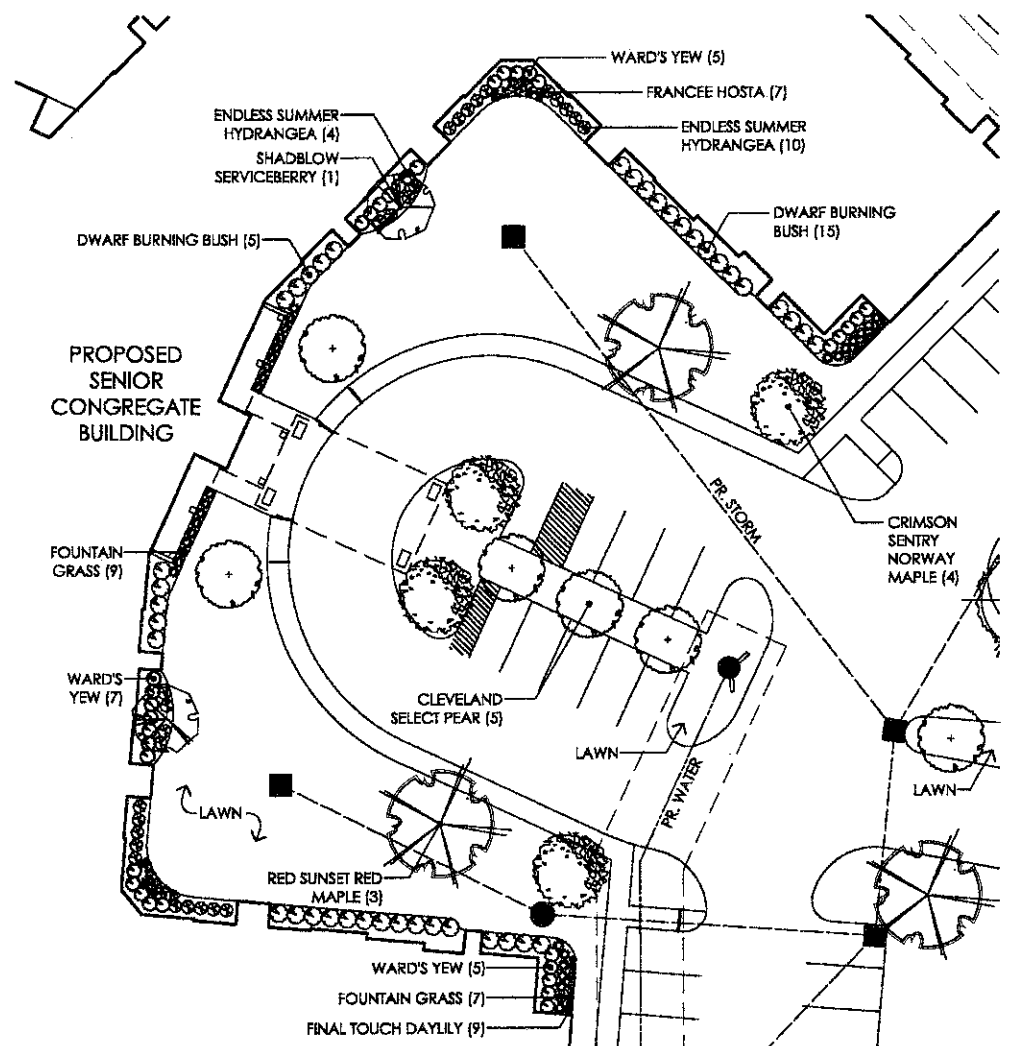


### PLANT SYMBOL LEGEND

- 15 SKYLINE HONEYLOCUST  
*Gleditsia triacanthos inermis 'Skyline'*  
3" Cal., B&B, Spaced as shown
- 10 SWAMP WHITE OAK  
*Quercus bicolor*  
3" Cal., B&B, Spaced as shown
- 13 RED SUNSET RED MAPLE  
*Acer rubrum 'Franksred'*  
3" Cal., B&B, Spaced as shown
- 8 CRIMSON KING NORWAY MAPLE  
*Acer platanoides 'Crimson King'*  
3" Cal., B&B, Spaced as shown
- 12 GREEN VASE ZELKOVA  
*Zelkova serrata 'Green Vase'*  
3" Cal., B&B, Spaced as shown
- 4 CRIMSON SENTRY NORWAY MAPLE  
*Acer platanoides 'Crimson Sentry'*  
3" Cal., B&B, Spaced as shown
- 9 CLEVELAND SELECT PEAR  
*Pyrus calleryana 'Cleveland Select'*  
2" Cal., B&B, Spaced as shown
- 8 HERITAGE RIVER BIRCH  
*Betula nigra 'Heritage'*  
10' Ht., Multi-stem, B&B, 15" o.c. min.
- 7 CRAB APPLE  
To Match Existing on Site  
2" Cal., B&B, 18" o.c. min.
- 18 SHADBLOW SERVICEBERRY  
*Amelanchier canadensis*  
10' Ht., Multi-stem, B&B, 20" o.c. min.
- 14 COLORADO BLUE SPRUCE  
*Picea pungens var. glauca*  
10' Ht., B&B, 12" o.c. min.
- 14 NORWAY SPRUCE  
*Picea abies*  
10' Ht., B&B, 12" o.c. min.
- 15 BLACK HILLS SPRUCE  
*Picea glauca v. densata*  
10' Ht., B&B, 12" o.c. min.
- 14 DOUGLAS FIR  
*Pseudotsuga menziesii*  
10' Ht., B&B, 12" o.c. min.
- 14 CONCOLOR FIR  
*Abies concolor*  
10' Ht., B&B, 12" o.c. min.
- 96 DWARF BURNING BUSH  
*Euonymus alata 'Compacta'*  
3" Ht. min., 4" o.c.
- 34 KOREAN SPICE VIBURNUM  
*Viburnum carlesii*  
3" Ht. min., 4" o.c.
- 95 WARDS YEW  
*Taxus x media 'Wardii'*  
24-30" Spread, 3" o.c.
- 27 SEA GREEN JUNIPER  
*Juniperus chinensis 'Sea Green'*  
24-30" Spread, 3" o.c.
- 42 ENDLESS SUMMER HYDRANGEA  
*Hydrangea macrophylla 'Ballerina'*  
30" Ht., 3" o.c.
- 13 DIGEBAND SILVER GRASS  
*Miscanthus sinensis 'Daleland'*  
3 Gal., 3" o.c.
- 32 FOUNTAIN GRASS  
*Pennisetum alpestrale*  
1 Gal., 30" o.c.
- 26 FRANCOE HOSTA  
*Hosta 'Francoe'*  
1 Gal., 30" o.c.
- 100 VISIONS ASTILBE  
*Astilbe chinensis 'Visions'*  
1 Gal., 18" o.c.
- 40 FINAL TOUCH DAYLILY  
*Hemerocallis 'Final Touch'*  
1 Gal., 18" o.c.

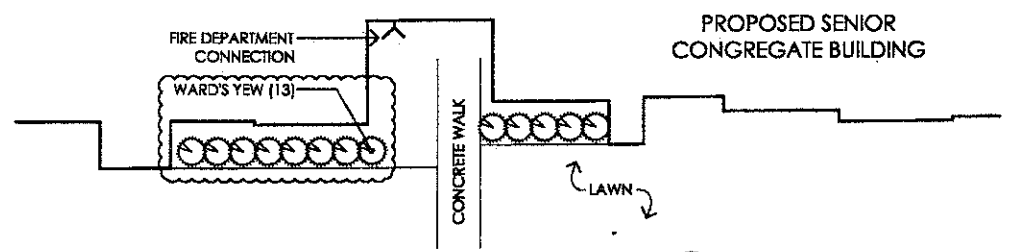






**CONGREGATE BUILDING ENTRY DETAIL**

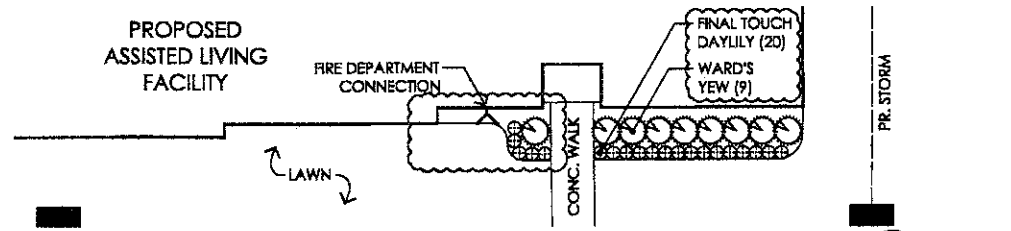
SCALE: 1" = 20' 0"



**CONGREGATE BUILDING SIDE ENTRY DETAIL**

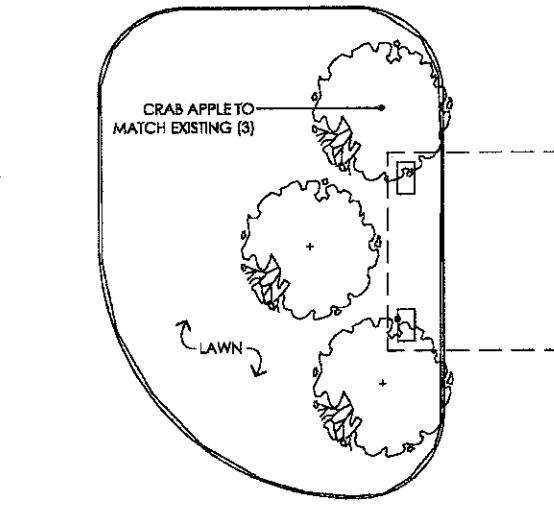
SCALE: 1" = 10' 0"

NOTE: THE SIDE ON ENTRY ON THE EAST SIDE OF THE CONGREGATE BUILDING SHALL BE PLANTED THE SAME AS THE ONE SHOWN IN THIS DETAIL.



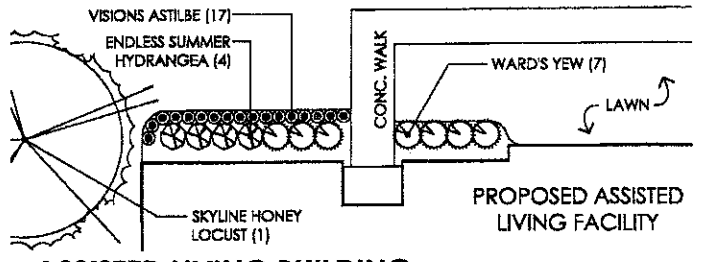
**ASSISTED LIVING BUILDING CORNER PLANTING DETAIL 'B'**

SCALE: 1" = 10' 0"



**ASSISTED LIVING BUILDING ENTRY DETAIL**

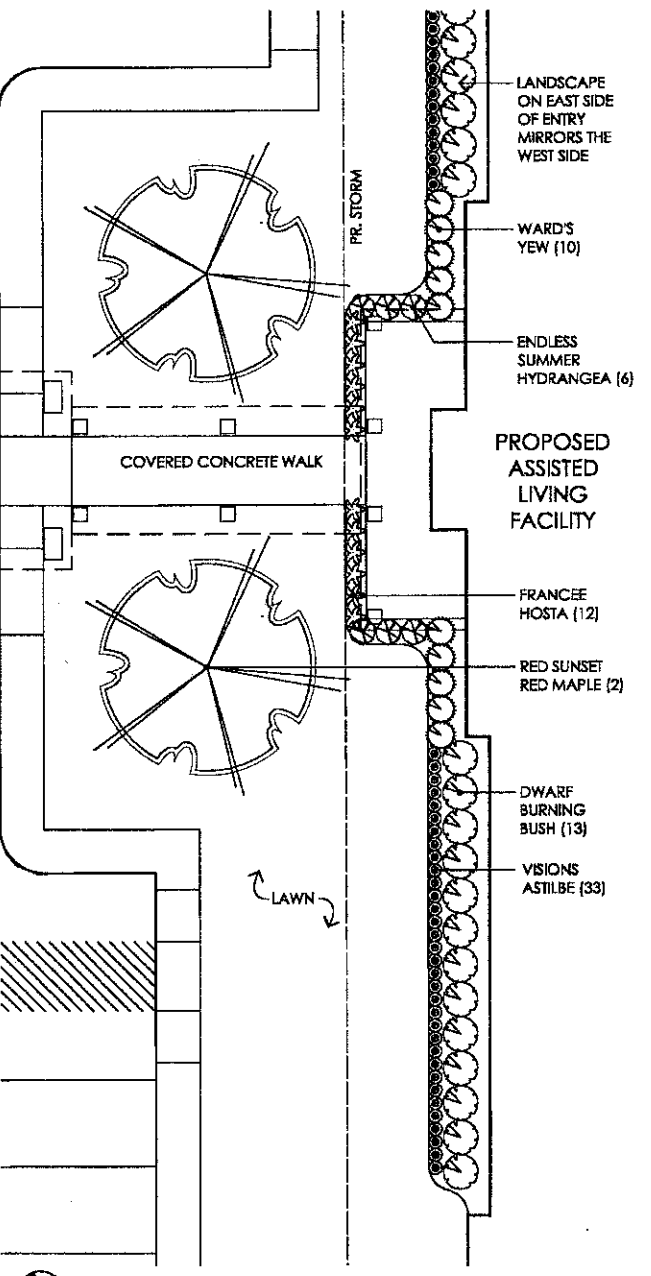
SCALE: 1" = 10' 0"



**ASSISTED LIVING BUILDING CORNER PLANTING DETAIL 'A'**

SCALE: 1" = 10' 0"

NOTE: THE OPPOSITE (SOUTH EASTERN) CORNER OF THE ASSISTED LIVING BUILDING SHALL BE PLANTED THE SAME AS THE ONE SHOWN IN THIS DETAIL, ONLY MIRRORED.



**ADDITIONAL NOTES**

1. PRIOR TO THE ISSUING OF A TEMPORARY OR FINAL CERTIFICATE OF OCCUPANCY THE APPLICANT MAY BE REQUIRED TO POST A PERFORMANCE BOND. THE CITY'S LANDSCAPE ARCHITECT WILL INSPECT THE LANDSCAPING AND IRRIGATION SYSTEM PRIOR TO THE ISSUING FOR THE ANY CERTIFICATE OF OCCUPANCY. IF THE LANDSCAPING IS 100% COMPLETE AND APPROVED IT WILL NOT BE NECESSARY FOR THE APPLICANT TO POST A PERFORMANCE BOND. IN LIEU OF A PERFORMANCE BOND THE APPLICANT WILL BE REQUIRED TO POST A MAINTENANCE BOND. THE MAINTENANCE BOND IS EQUAL TO 25% OF THE TOTAL ESTIMATED COST OF THE LANDSCAPING AND IRRIGATION SYSTEM AS INDICATED ON THE APPROVED CONTRACT DOCUMENTS. IF THE LANDSCAPING IS NOT COMPLETE THE APPLICANT MUST POST A PERFORMANCE BOND BEFORE ANY CERTIFICATE OF OCCUPANCY IS ISSUED. THE AMOUNT OF THE PERFORMANCE BOND WITH IS BASED ON THE PERCENTAGE OF COMPLETION OF THE LANDSCAPING AND IRRIGATION. THE PERCENTAGE OF COMPLETION AND THE AMOUNT OF THE MAINTENANCE BOND SHALL BE DETERMINED BY THE CITY'S LANDSCAPE ARCHITECT. THE MAINTENANCE BOND SHALL BE HELD FOR A PERIOD OF 2 YEARS. AT THE END OF THE TWO YEARS THE LANDSCAPING WILL BE INSPECTED BY THE CITY'S LANDSCAPE ARCHITECT. IF THE LANDSCAPING IS IN GOOD CONDITION AT THAT TIME THE MAINTENANCE BOND WILL BE RELEASED.
2. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF A PUBLIC ROADWAY. SHADE TREES AND SHRUBS MUST BE PLANTED AT LEAST 8' FROM THE EDGE OF A PUBLIC WALKWAY. EVERGREEN AND ORNAMENTAL TREES MUST BE PLANTED AT LEAST 10' FROM THE EDGE OF A PUBLIC WALKWAY. ALL TREES AND SHRUBS MUST BE PLANTED AT LEAST 10' FROM ANY FIRE HYDRANT. SHADE AND EVERGREEN TREES MUST BE PLANTED AT LEAST 15' FROM THE NEAREST OVERHEAD WIRE AND AT LEAST 10' FROM THE NEAREST UNDERGROUND UTILITY.
3. NO TREE OR SHRUB MAY BE PLANTED WITHIN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY STREET RIGHT-OF-WAY AT A DISTANCE OF 25' FROM THEIR POINT OF INTERSECTION. NO TREE OR SHRUB MAY BE PLANTED IN THE TRIANGULAR AREA FORMED AT THE INTERSECTION OF ANY DRIVEWAY WITH A PUBLIC SIDEWALK AT A DISTANCE ALONG EACH LINE OF 15' FROM THEIR POINT OF INTERSECTION.
4. PRIOR APPROVAL IS REQUIRED TO PLANT ANY TREE OR SHRUB IN THE PUBLIC RIGHT-OF-WAY.
5. NO SUBSTITUTIONS OR CHANGES OF LOCATION OR PLANT TYPES SHALL BE MADE WITHOUT THE APPROVAL OF THE DEVELOPER AND THE CITY OF ROCHESTER HILLS LANDSCAPE ARCHITECT.
6. THE DEVELOPER AND/OR THE CITY OF ROCHESTER HILLS LANDSCAPE ARCHITECT SHALL HAVE THE RIGHT, AT ANY STAGE OF THE INSTALLATION, TO REJECT ANY WORK OR MATERIAL THAT DOES NOT MEET THE REQUIREMENTS OF THE PLANS OR SPECIFICATIONS.
7. REPLACEMENT TREES MAY NOT BE PLANTED WITHIN THE DRIP LINE OF EXISTING TREES.

**PLANT SYMBOL LEGEND**

- 16 SKYLINE HONEYLOCUST  
*Gleditsia triacanthos inermis 'Skyline'*  
3' Cal., B&B, Spaced as shown
- 10 SWAMP WHITE OAK  
*Quercus bicolor*  
3' Cal., B&B, Spaced as shown
- 13 RED SUNSET RED MAPLE  
*Acer rubrum 'Franksred'*  
3' Cal., B&B, Spaced as shown
- 8 CRIMSON KING NORWAY MAPLE  
*Acer platanoides 'Crimson King'*  
3' Cal., B&B, Spaced as shown
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*Zelkova serrata 'Green Vase'*  
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*Pyrus columbia 'Cleveland Select'*  
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*Betula nigra 'Heritage'*  
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*Picea abies*  
10' Ht., B&B, 12' o.c. min.
- 15 BLACK HILLS SPRUCE  
*Picea glauca var. densata*  
10' Ht., B&B, 12' o.c. min.
- 14 DOUGLAS FIR  
*Pseudotsuga menziesii*  
10' Ht., B&B, 12' o.c. min.
- 14 CONCOLOR FIR  
*Abies concolor*  
10' Ht., B&B, 12' o.c. min.
- 96 DWARF BURNING BUSH  
*Eunymus alata 'Compacta'*  
3' Ht., min., 4' o.c.
- 34 KOREAN SPICE VIBURNUM  
*Viburnum carlesii*  
3' Ht., min., 4' o.c.
- 96 WARD'S YEW  
*Taxus x media 'Ward'*  
24-30" Spread, 3' o.c.
- 27 SEA GREEN JUNIPER  
*Juniperus chinensis 'Sea Green'*  
24-30" Spread, 3' o.c.
- 42 ENDLESS SUMMER HYDRANGEA  
*Hydrangea macrophylla 'Bailmer'*  
30" Ht., 3' o.c.
- 13 DIXIELAND SILVER GRASS  
*Miscanthus sinensis 'Dixieland'*  
3 Gal., 3' o.c.
- 32 FOUNTAIN GRASS  
*Pennisetum alopecuroides*  
1 Gal., 30' o.c.
- 26 FRANCEE HOSTA  
*Hosta 'Francee'*  
1 Gal., 30' o.c.
- 100 VISIONS ASTILBE  
*Astilbe chinensis 'Visions'*  
1 Gal., 18' o.c.
- 20 FINAL TOUCH DAYLILY  
*Hemerocallis 'Final Touch'*  
1 Gal., 18' o.c.

**LANDSCAPE NOTES**

1. ALL LAWN AREAS TO BE SODDED UNLESS OTHERWISE NOTED ON PLAN. SOD SHALL BE INSTALLED OVER AN EVENLY SPREAD LAYER OF TOPSOIL TO A GENTLY COMPACTED DEPTH NO LESS THAN 4".
2. ALL LANDSCAPE BEDS TO BE DRESSED WITH SHREDDED BARK MULCH TO A MINIMUM DEPTH OF 3". ALL PROPOSED TREES IN LAWN AREAS SHALL HAVE A MULCH RING NOT LESS THAN 3' DIAMETER, TO A MINIMUM DEPTH OF 3".
3. ALL LANDSCAPE BEDS TO BE EDGED WITH 1/2" x 4" ALUMINUM EDGING.
4. ALL LANDSCAPE AREAS TO BE WATERED WITH AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM, PROVIDING 100% COVERAGE WHILE PLACING LAWN AREAS AND LANDSCAPE BEDS ON SEPARATE ZONES. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY EXISTING IRRIGATION SYSTEM SHOULD DAMAGE OCCUR DURING INSTALLATION OF THE NEW SYSTEM. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THE LANDSCAPE UNTIL THE IRRIGATION SYSTEM IS FULLY OPERATIONAL AS APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
5. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN A HEALTHY GROWING CONDITION WITH A NEAT AND ORDERLY APPEARANCE. THE LANDSCAPE CONTRACTOR SHALL MONITOR ALL LANDSCAPE MATERIAL DURING THE WARRANTY PERIOD. ALL DEAD OR DECLINING PLANT MATERIAL SHALL BE REPLACED IN A TIMELY MANNER, NO LATER THAN THE FOLLOWING GROWING SEASON.
6. THE LANDSCAPE CONTRACTOR SHALL PROVIDE TREE STAKING AND GUYING FOR ALL NEWLY PLANTED TREES, AS REQUIRED, IN ACCORDANCE WITH CURRENT LOCAL NURSERY AND LANDSCAPE STANDARDS. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL OF ALL TREE STAKING AND GUYING WHEN APPROVED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
7. LANDSCAPE CONTRACTOR SHALL REPAIR ALL EXISTING LAWN AREAS TO THEIR PRE CONSTRUCTION CONDITION IF DAMAGE OCCURS DURING THE CONSTRUCTION/INSTALLATION PROCESS.

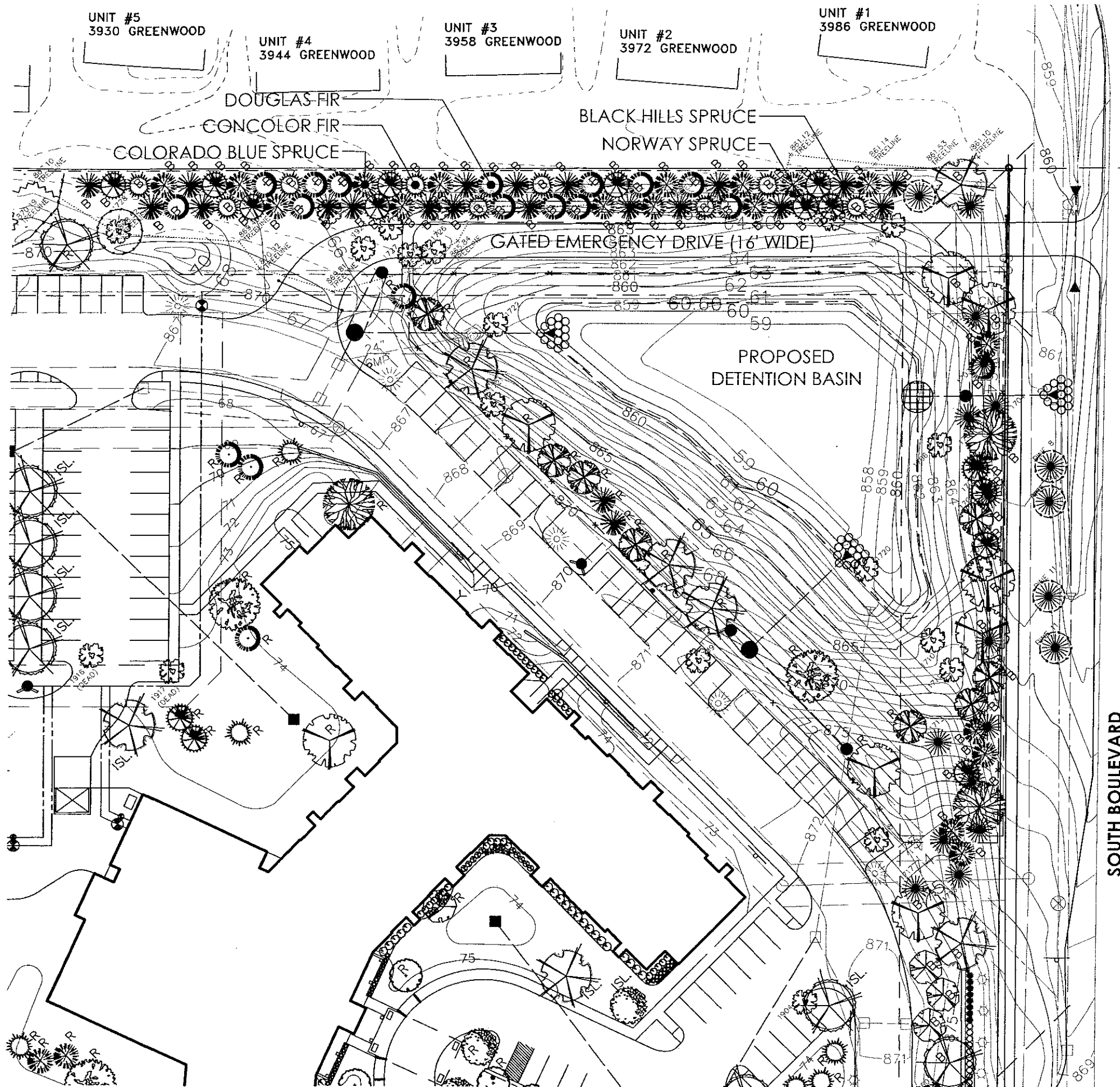
**SCHEMATIC LANDSCAPE PLAN**  
**ENLARGEMENTS**  
**ROCHESTER HILLS, MI**  
**BOULEVARD HILLS NURSING CENTER**  
**JAMES C. SCOTT & ASSOCIATES**  
 300 e. Long Lake rd. ste. 120, Bloomfield Hills, MI 48304  
 (248) 646-6564  
 (248) 646-4838

	4/29/08
	6/29/08
	9/18/08
	10/18/08
	1/28/09
	BMW
	AS NOTED

L - 4

NOTE: ALL QUANTITIES ARE LANDSCAPE ARCHITECT'S ESTIMATES. THESE QUANTITIES ARE NOT TO BE TAKEN AS DEFINING OR LIMITING THE AMOUNT OF WORK TO BE DONE UNDER THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN ESTIMATES. ALL DISCREPANCIES ARE TO BE REPORTED TO THE LANDSCAPE ARCHITECT'S OFFICE IMMEDIATELY. ALL DESIGNS, CONCEPTS, DETAILS, ETC. ARE THE PROPERTY OF JAMES C. SCOTT & ASSOCIATES, INC., AND MAY NOT BE DUPLICATED, PHOTOGRAPHED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF JAMES C. SCOTT, OWNER. COPYRIGHT 2008





# LANDSCAPE BUFFER REQUIREMENTS

A 'TYPE B' LANDSCAPE BUFFER IS REQUIRED ALONG THE WESTERN, EASTERN, AND SOUTHERN PROPERTY LINES.

THERE IS EXISTING HEAVY BRUSH, UNDERSTORY, AND TREE COVER ALONG THE WESTERN AND EASTERN PROPERTY LINES. THESE SCREENS SHALL BE APPROPRIATELY PROTECTED, AS REQUIRED BY THE CITY OF ROCHESTER HILLS, DURING CONSTRUCTION AND SHALL BE REPLACED BY THE OWNER, SHOULD ANY ACCIDENTAL DAMAGE OCCUR. ADDITIONALLY, DECIDUOUS AND EVERGREEN TREES HAVE BEEN ADDED TO FILL ANY GAPS AND TO PROVIDE SCREENING FROM THE NEIGHBORS.

**REQUIREMENTS FOR THE EAST PROPERTY LINE IS AS FOLLOWS FOR A TYPE B BUFFER (807 L.F.):**

	REQ'D	PROPOSED
DECIDUOUS TREES (2 PER 100 L.F.):	16	20**
ORNAMENTAL TREES (1.5 PER 100 L.F.):	12	2
EVERGREEN TREES (2 PER 100 L.F.):	16	68**
SHRUBS (4 PER 100 L.F.):	32	0

A TOTAL OF 44 TREES AND 32 SHRUBS ARE REQUIRED; 88 TREES HAVE BEEN PROVIDED.

\*\* TOTALS INCLUDE 21 EXISTING TREES (20 DECIDUOUS AND 1 EVERGREEN).

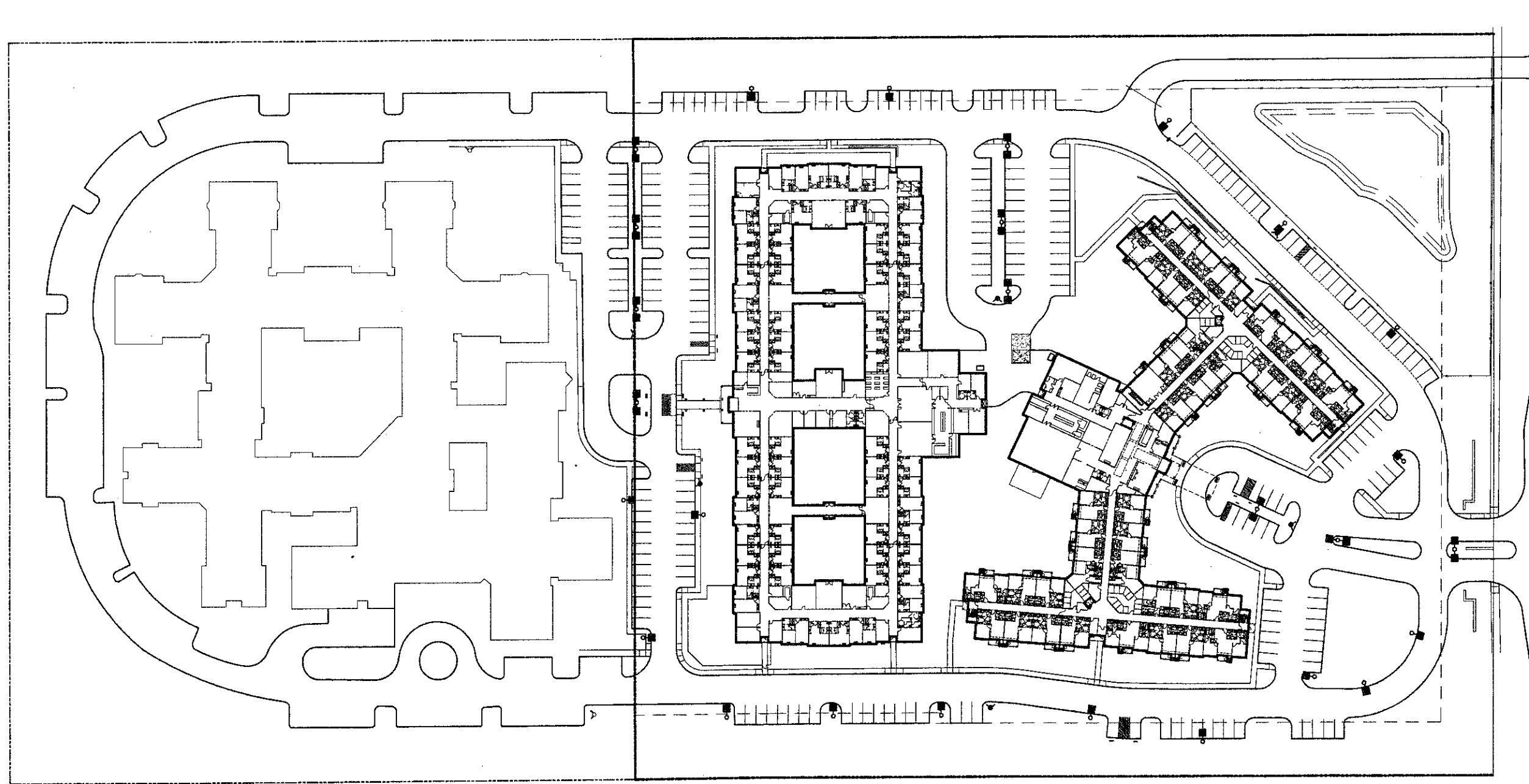
NOTE: TREES 1730 AND 1920 ARE IN POOR CONDITION AND CANNOT BE COUNTED TOWARD MEETING THE BUFFER TREE REQUIREMENTS.

**NOTE:** ADDITIONAL EVERGREEN TREES WERE USED IN LIEU OF SOME OF THE REQUIRED ORNAMENTAL TREES AND ALL OF THE REQUIRED SHRUBS TO PROVIDE A THICKER EVERGREEN SCREEN FROM THE NEIGHBORING HOMES.


	date 11 / 06 / 09	drawn BMW	checked	scale 1" = 50' 0"	revisions
	<b>BOULEVARD HILLS NURSING CENTER</b>				
	ROCHESTER HILLS, MI		REVISED EMERGENCY DRIVE AND BUFFER PLANTING PLAN		
	<b>JAMES C. SCOTT &amp; ASSOCIATES</b>				
<small>300 e. long lake rd., ste. 120, bloomfield hills, michigan, 48304 landscape architects • site planners • p: 248.646.6564 • f: 248.646.4838</small>					<b>1 / 1</b>

Boulevard Hills LA\_110609.dwg

Issued For:  
REVIEW  
8.12.09  
REVISED  
9.18.09



 **PROPOSED SITE LIGHTING PLAN**  
SCALE: 1"=50'

 PROPOSED SITE LIGHTING

Contractor:  
LIBERTY  
CONSTRUCTION

Developer:  
POMKAL  
ROCHESTER LLC

Project:  
BOULEVARD HILLS  
Senior Housing

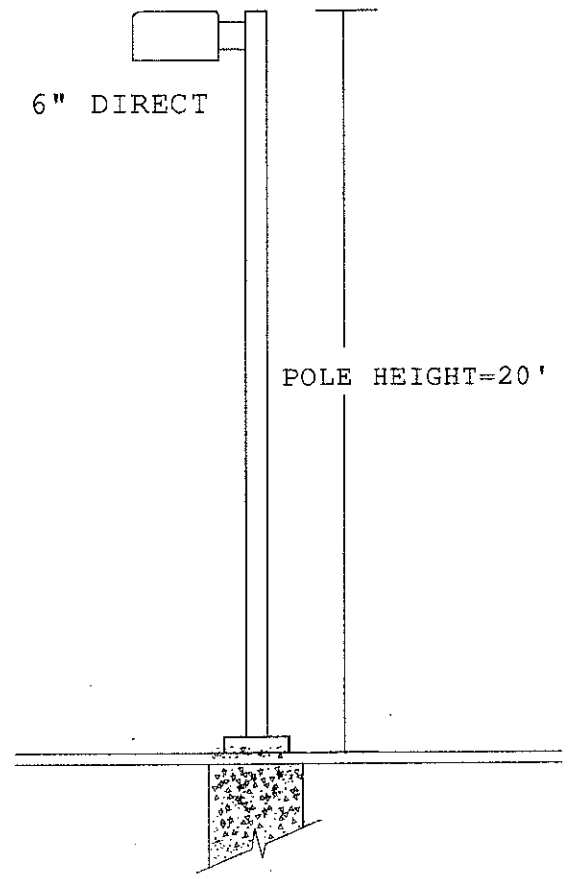
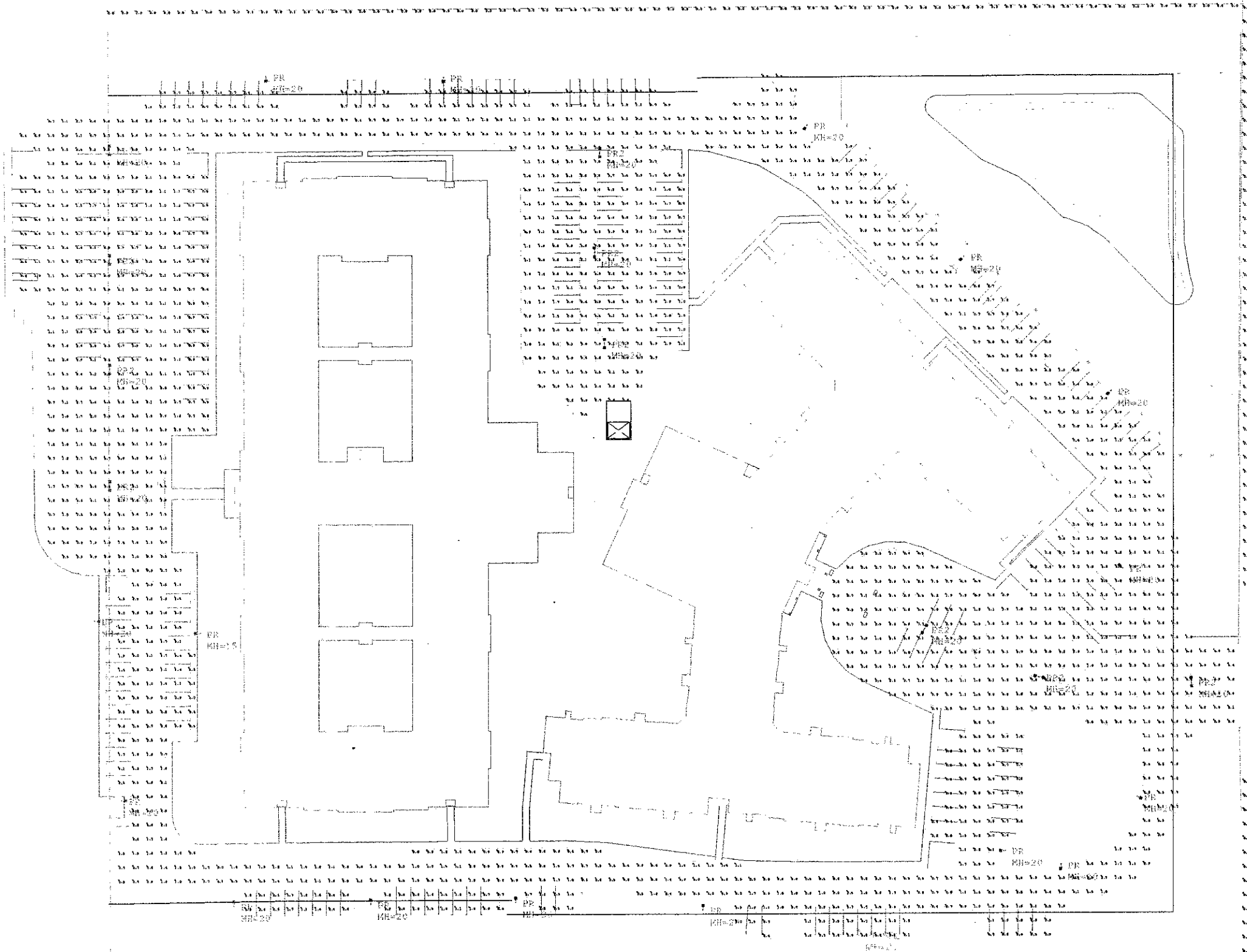
Rochester Hills, Michigan  
Sheet Title:

PROPOSED  
SITE LIGHTING  
PLAN

Project Number: 07-064  
Drawn: RGG  
Checked: PA  
Date: 8.12.09  
Sheet Number:

**SL**

# RUUD LIGHTING



- ADDITIONAL EQUIPMENT**
- (1) PS4S15C1BZ 15' X 4" X .125 SQUARE STEEL POLE
  - (1) SBL-16 BACKLIGHT SHIELD
  - (16) PS4S20C1BZ 20' X 4" X .125 SQUARE STEEL POLE
  - (10) PS4S20C2BZ 20' X 4" X .125 SQUARE STEEL POLE
  - POLE AND FIXTURE EPA MEETS 130 MPH SUSTAINED WINDS

Luminaire Summary					
Level	Avg	Max	Min	Avg/Min	Max/Min
Paved Area	2.10	8.1	0.2	10.50	45.50
Property Line	3.98	15.1	0.2	17.9	73.2

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
PR	16	PR	SINGLE	22000	0.750	PR25-M 250W PSMH
PR	10	PR	BACK-BACK	22000	0.750	PR25-M 250W PSMH
PR	1	PR-SBL	SINGLE	22000	0.750	PR25-M 250W PSMH

**RUUD LIGHTING**  
 800.236.7000 USA <www.ruudlighting.com> 906.671.1991 CAN

Date: 6/14/2009 Scale: 1"=40' Engineer: JIM BLAIR  
 Project Name: 60513- Boulevard Hills Senior Housing  
 Filename: 90614PE1URB.AGI

MEAN FOOTCANDLES SHOWN AT GRADE

**SITE PHOTOMETRIC PLAN**

SL-1

838 W. Long Lake #250  
 Bloomfield Hills, MI 48302  
 248 540-5940 Fax 248 540-4820  
 Email: pai@progressiveassociates.com

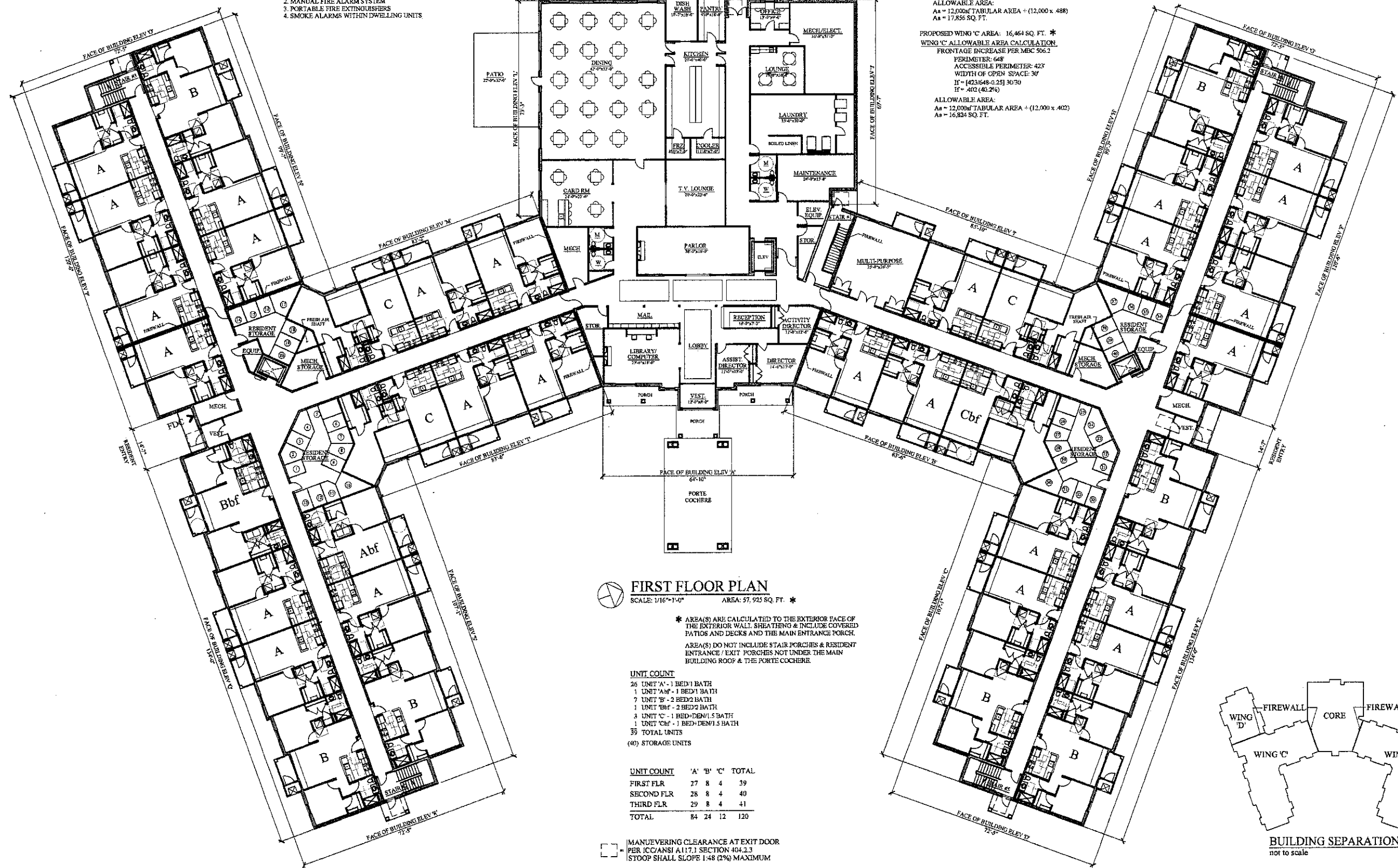
**GENERAL BLDG & CODE DATA:**  
 THE STRUCTURE IS AN INDEPENDANT SENIOR CITIZEN APARTMENT BLDG AND INCLUDES ROOMS & SPACES FOR ACCESSORY AND INCIDENTAL USES.  
 THE STRUCTURE IS DIVIDED INTO (5) SEPARATE BUILDINGS BY FIRE WALLS HAVING A (2) HOUR FIRE RESISTANCE RATING IN ACCORDANCE WITH MBC SECTION 705.  
 PROPOSED CONSTRUCTION TYPE: 'VA' - PROTECTED WOOD FRAME  
 FIRE RESISTANCE RATING OF BLDG STRUCTURAL ELEMENTS:  
 EXTERIOR WALLS (BEARING & NON-BEARING): (1) HOUR  
 INTERIOR BEARING WALLS & COLUMNS: (1) HOUR  
 FLOOR-CEILING ASSEMBLIES: (1) HOUR  
 ROOF-CEILING ASSEMBLIES: (1) HOUR  
 PROPOSED HEIGHT: (3) STORIES ABOVE GRADE.  
 FIRST FLOOR CONSTRUCTION - CONCRETE SLAB ON GRADE.

**CORE:**  
 PROPOSED USE GROUPS: A2, A3, B, & R2  
 NON-SEPARATED MIXED USE  
 INCIDENTAL USES:  
 STORAGE ROOMS > 100 SF  
 MECH EQUIPMENT ROOMS HAVING ANY PIECE OF FUEL FIRED EQUIPMENT > 400,000 BTU INPUT  
 BOILER ROOMS WHERE LARGEST PIECE OF EQUIPMENT IS OVER 1500 AND 100hp  
 LAUNDRY ROOM > 100 SF.  
 PROPOSED CORE AREA: 13,473 SQ. FT. \*  
 ALLOWABLE BLDG AREA:  
 11,500sf TABULAR AREA + 200% INCREASE FOR NFPA 13 SPRINKLER  
 11,500sf + (11,500sf X 2) = 34,500sf  
 ALLOWABLE BLDG HEIGHT:  
 (2) STORIES TABULAR HGT + (1) STORY FOR NFPA 13 SPRINKLER  
 (3) STORIES ALLOWED  
 CORE FIRE PROTECTION SYSTEMS:  
 1. AUTOMATIC FIRE SPRINKLER SYSTEM PER NFPA 13 THROUGHOUT  
 2. MANUAL FIRE ALARM SYSTEM  
 3. PORTABLE FIRE EXTINGUISHERS  
 4. SMOKE ALARMS WITHIN DWELLING UNITS

ALLOWABLE WALL OPENING AREA @ DINING ROOM / WEST WALL OF CORE  
 FIRE SEPARATION DISTANCE = 10'  
 ALLOWABLE UNPROTECTED OPENING AREA BASED ON TABLE 704.8 & SECTION 704.8.1 FOR BLDG w/ AUTOMATIC SPRINKLER SYSTEM PER NFPA 13 = 75%  
 AREA OF DINING WALL: 42.33' x 8' = 338 SQ. FT.  
 PROPOSED WINDOWS: (6) 3'-4" x 6' WINDOWS = 120 SQ. FT.  
 120 / 338 = .36, 36% < 75%; THEREFORE WINDOWS ARE ACCEPTABLE.  
 FIRE RATING OF WEST WALLS OF CORE:  
 PER TABLE 602, w/ FSD > 10', REQ'D FIRE RESISTANCE RATING = 1 HOUR.  
 BASED ON TYPE 'VA' CONSTRUCTION ALL EXTERIOR WALLS ARE (1) HOUR FIRE RATED.  
 EXT WALLS HAVING GREATER THAN 5' FSD REQUIRE WALL TO BE RATED FROM INSIDE ONLY.

**WING 'A' & 'C':**  
 PROPOSED USE GROUP: R2  
 INCIDENTAL USES:  
 STORAGE ROOMS > 100 SF  
 MECH EQUIPMENT ROOMS HAVING ANY PIECE OF FUEL FIRED EQUIPMENT > 400,000 BTU INPUT  
 FIRE PROTECTION SYSTEMS:  
 1. AUTOMATIC FIRE SPRINKLER SYSTEM PER NFPA 13R  
 2. FIRE ALARM SYSTEM  
 3. PORTABLE FIRE EXTINGUISHERS  
 4. SMOKE ALARMS WITHIN DWELLING UNITS  
 PROPOSED WING 'A' AREA: 16,464 SQ. FT. \*  
 WING 'A' ALLOWABLE AREA CALCULATION  
 FRONTAGE INCREASE PER MEC 506.2  
 PERIMETER: 648'  
 ACCESSIBLE PERIMETER: 506'  
 WIDTH OF OPEN SPACE: 30'  
 If = (506/648 - 0.25) 30/30  
 If = 488 (48.8%)  
 ALLOWABLE AREA:  
 Aa = 12,000sf TABULAR AREA + (12,000 x 488)  
 Aa = 17,856 SQ. FT.  
 PROPOSED WING 'C' AREA: 16,464 SQ. FT. \*  
 WING 'C' ALLOWABLE AREA CALCULATION  
 FRONTAGE INCREASE PER MEC 506.2  
 PERIMETER: 648'  
 ACCESSIBLE PERIMETER: 423'  
 WIDTH OF OPEN SPACE: 30'  
 If = (423/648 - 0.25) 30/30  
 If = 402 (40.2%)  
 ALLOWABLE AREA:  
 Aa = 12,000sf TABULAR AREA + (12,000 x 402)  
 Aa = 16,824 SQ. FT.

**WING 'B' & 'D':**  
 PROPOSED USE GROUP: R2  
 PROPOSED WING 'B' AREA: 5,781 SQ. FT. \*  
 ALLOWABLE WING 'B' AREA: 12,000 SQ. FT. / TABULAR AREA  
 PROPOSED WING 'D' AREA: 5,781 SQ. FT. \*  
 ALLOWABLE WING 'D' AREA: 12,000 SQ. FT. / TABULAR AREA  
 FIRE PROTECTION SYSTEMS:  
 1. AUTOMATIC FIRE SPRINKLER SYSTEM PER NFPA 13R  
 2. MANUAL FIRE ALARM SYSTEM  
 3. PORTABLE FIRE EXTINGUISHERS  
 4. SMOKE ALARMS WITHIN DWELLING UNITS



**FIRST FLOOR PLAN**  
 SCALE: 1/16"=1'-0" AREA: 57,925 SQ. FT. \*

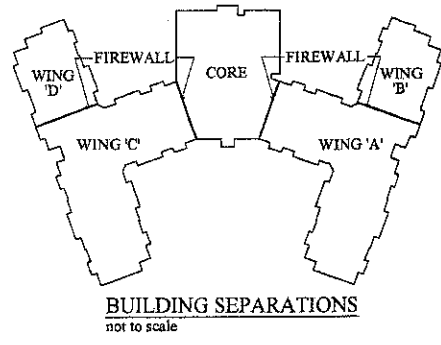
\* AREA(S) ARE CALCULATED TO THE EXTERIOR FACE OF THE EXTERIOR WALL, SHEATHING & INCLUDE COVERED PATIOS AND DECKS AND THE MAIN ENTRANCE PORCH.  
 AREA(S) DO NOT INCLUDE STAIR PORCHES & RESIDENT ENTRANCE / EXIT PORCHES NOT UNDER THE MAIN BUILDING ROOF & THE PORTE COCHERE.

**UNIT COUNT**

26 UNIT 'A' - 1 BED/1 BATH  
 1 UNIT 'Abf' - 1 BED/1 BATH  
 7 UNIT 'B' - 2 BED/2 BATH  
 1 UNIT 'Bbf' - 2 BED/2 BATH  
 3 UNIT 'C' - 1 BED-DEN/1.5 BATH  
 1 UNIT 'Cb' - 1 BED-DEN/1.5 BATH  
 39 TOTAL UNITS  
 (40) STORAGE UNITS

UNIT COUNT	'A'	'B'	'C'	TOTAL
FIRST FLR	27	8	4	39
SECOND FLR	28	8	4	40
THIRD FLR	29	8	4	41
TOTAL	84	24	12	120

MANEUVERING CLEARANCE AT EXIT DOOR PER ICC/ANSI A117.1 SECTION 404.2.3 STOOB SHALL SLOPE 1:48 (2%) MAXIMUM



**BUILDING SEPARATIONS**  
 not to scale

Issued For:

REVIEW	2.4.08
REVIEW	3.5.08
REVIEW	9.3.08
REVIEW	1.20.09
REVIEW	2.11.09
REVIEW	3.9.09
REVIEW	3.25.09
REVISED	6.8.09
REVISED per CITY	6.26.09
REVISED Core Area per CITY	9.25.09
REVISED	10.16.09

Contractor:  
**LIBERTY CONSTRUCTION**

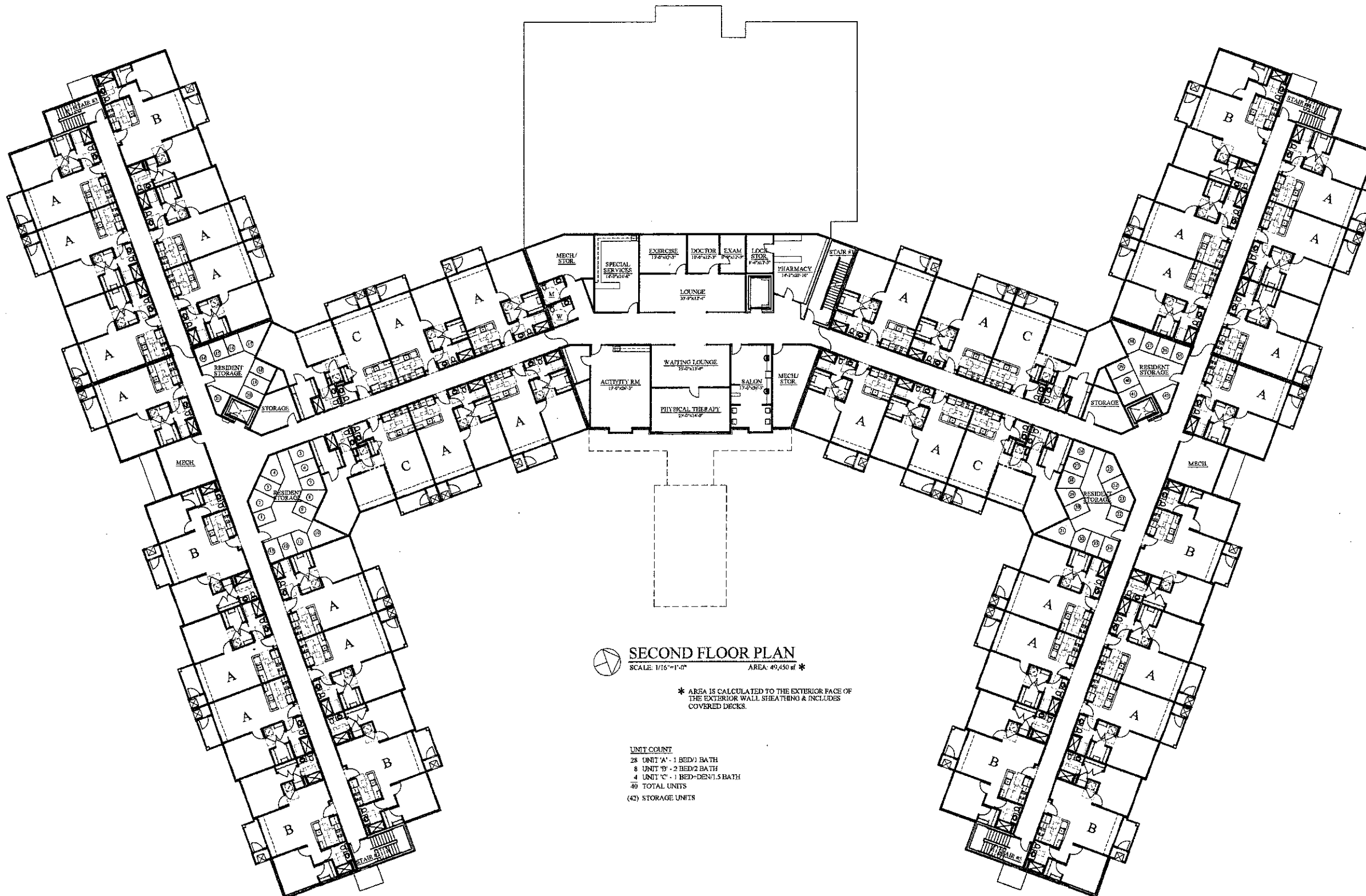
Developer:  
**POMKAL ROCHESTER LLC**

Project:  
**OAKMONT Boulevard Hills / Independent Senior Living**  
 Rochester Hills, Michigan

Sheet Title:  
**PROPOSED FIRST FLOOR PLAN**

Project Number: 07-064  
 Drawn: VC, RGG  
 Checked: DT  
 Date: 10.30.07  
 Sheet Number: **SK1**





**SECOND FLOOR PLAN**  
 SCALE: 1/16"=1'-0" AREA: 49,450 sf \*

\* AREA IS CALCULATED TO THE EXTERIOR FACE OF THE EXTERIOR WALL SHEATHING & INCLUDES COVERED DECKS.

**UNIT COUNT**  
 28 UNIT 'A' - 1 BED/1 BATH  
 8 UNIT 'B' - 2 BED/2 BATH  
 4 UNIT 'C' - 1 BED/DEN/1.5 BATH  
 40 TOTAL UNITS  
 (42) STORAGE UNITS

Issued For:
REVIEW
10.30.07
REVIEW
11.16.07
REVIEW
12.6.07
REVISED
12.13.07
REVIEW
3.5.08
REVIEW
9.3.08
REVIEW
1.20.09
REVIEW
2.11.09
REVIEW
3.6.09
REVIEW
3.25.09
REVISED
6.8.09
REVISED per CITY
6.26.09
REVISED
10.16.09

Contractor:  
**LIBERTY CONSTRUCTION**

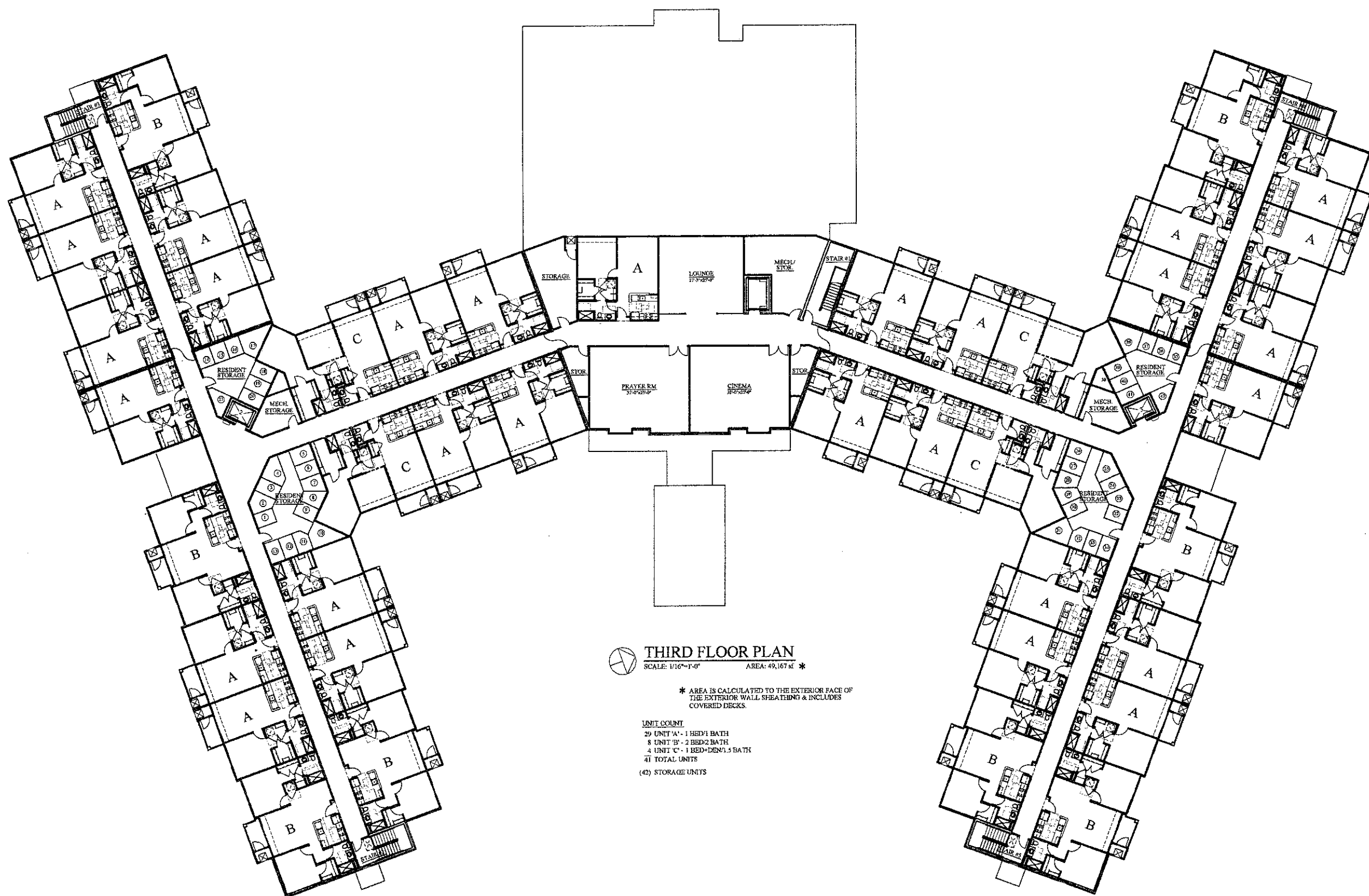
Developer:  
**POMKAL ROCHESTER LLC**

Project:  
**OAKMONT Boulevard Hills / Independent Senior Living**  
 Rochester Hills, Michigan

Sheet Title:  
**PROPOSED SECOND FLOOR PLAN**

Project Number: **07-064**  
 Drawn: **VC, RGG**  
 Checked: **DT**  
 Date: **10.30.07**  
 Sheet Number:

**SK2**



**THIRD FLOOR PLAN**  
 SCALE: 1/16"=1'-0" AREA: 49,167 sq ft \*

\* AREA IS CALCULATED TO THE EXTERIOR FACE OF THE EXTERIOR WALL SHEATHING & INCLUDES COVERED DECKS.

**UNIT COUNT**  
 29 UNIT 'A' - 1 BED/1 BATH  
 8 UNIT 'B' - 2 BED/2 BATH  
 4 UNIT 'C' - 1 BED+DEN/1.5 BATH  
 41 TOTAL UNITS  
 (42) STORAGE UNITS

Issued For:
REVIEW
10.30.07
REVIEW
11.16.07
REVIEW
12.6.07
REVISED
12.13.07
REVIEW
3.5.08
REVIEW
9.3.08
REVIEW
1.20.09
REVIEW
2.11.09
REVIEW
3.9.09
REVIEW
3.25.09
REVISED
6.8.09
REVISED per CITY
6.26.09
REVISED
10.16.09

Contractor:  
**LIBERTY  
 CONSTRUCTION**

Developer:  
**POMKAL  
 ROCHESTER LLC**

Project:  
**OAKMONT  
 Boulevard Hills /  
 Independent  
 Senior Living**

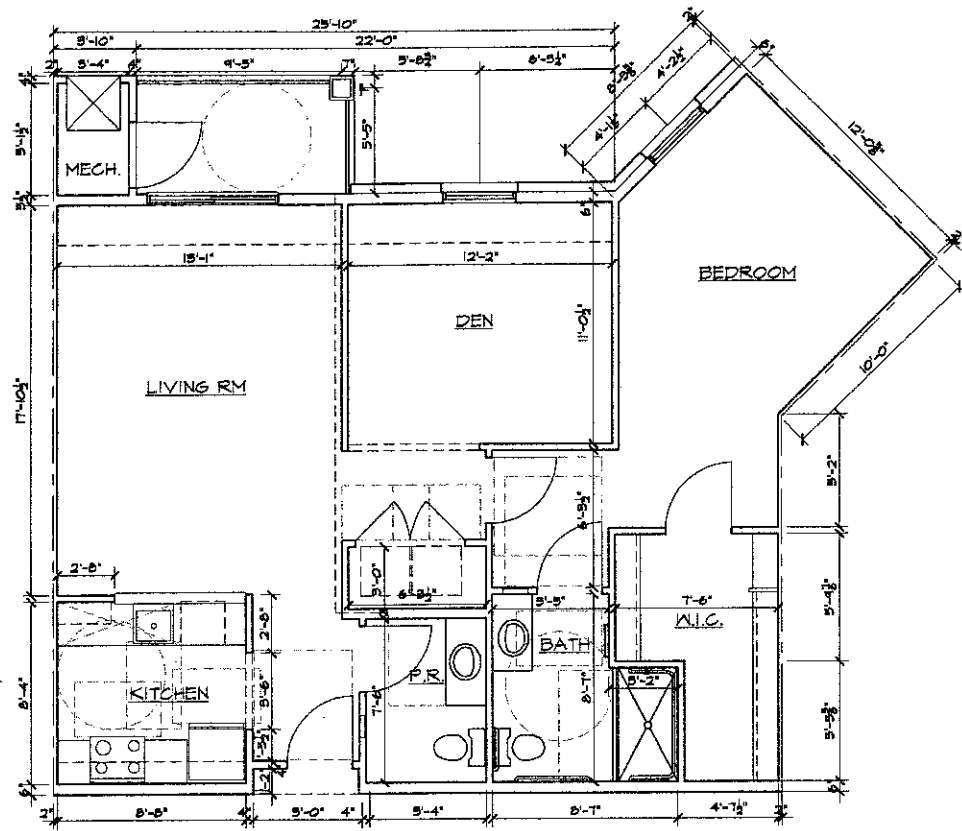
Rochester Hills, Michigan

Sheet Title:  
**PROPOSED  
 THIRD  
 FLOOR PLAN**

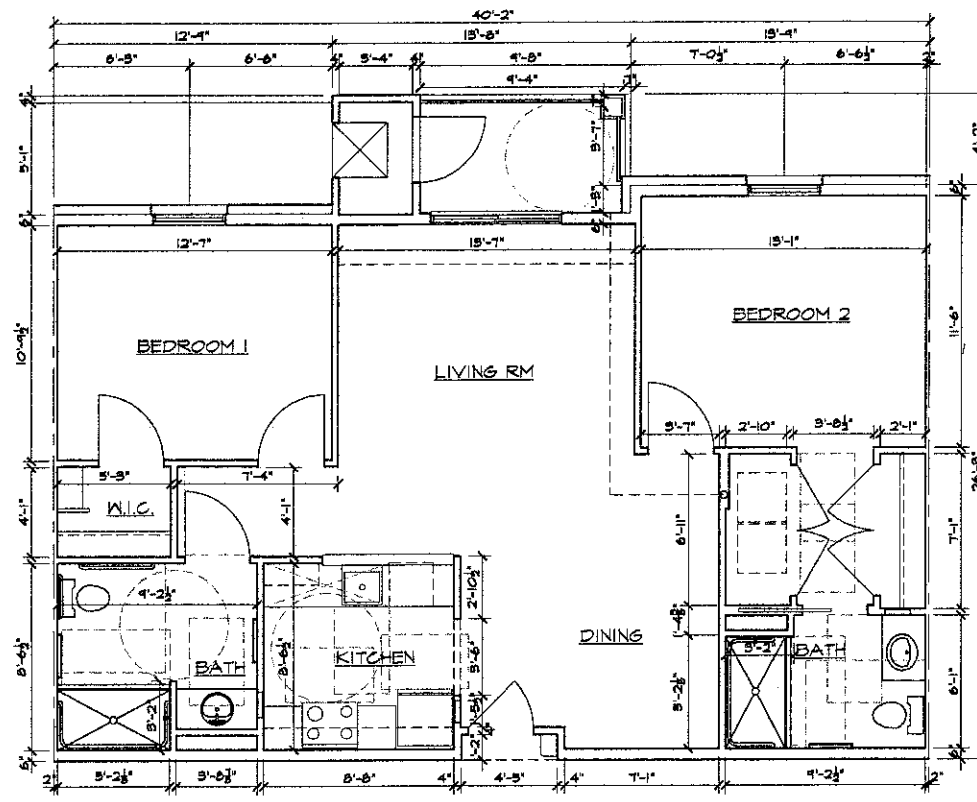
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 Drawn: VC:RGG  
 Checked: DT  
 Date: 10.30.07  
 Sheet Number:

**SK3**

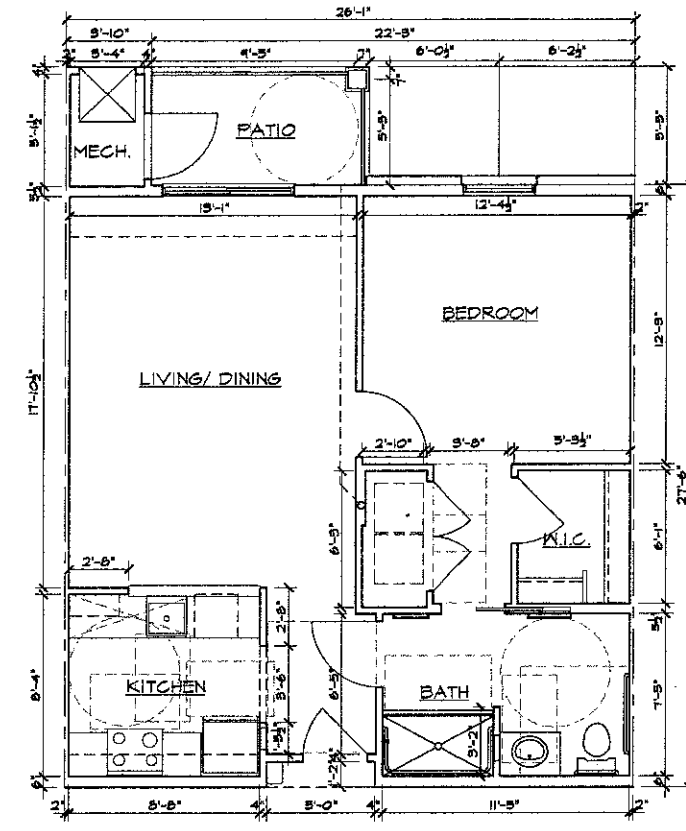
838 W. Long Lake #250  
 Bloomfield Hills, MI 48302  
 248 540-5940 Fax 248 540-4820  
 Email: pat@progressiveassociates.com



**BARRIER FREE  
 UNIT TYPE Cbf**  
 SCALE: 1/4"=1'-0" AREA: 995sf

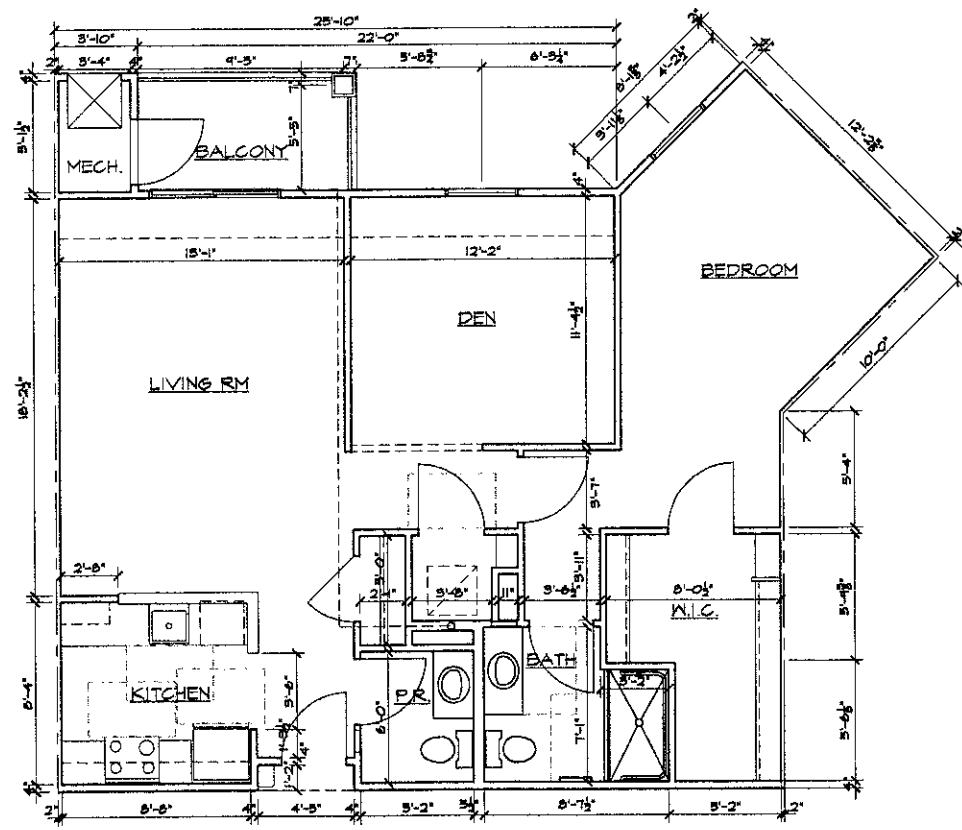


**BARRIER FREE  
 UNIT TYPE Bbf**  
 SCALE: 1/4"=1'-0" AREA: 1050sf

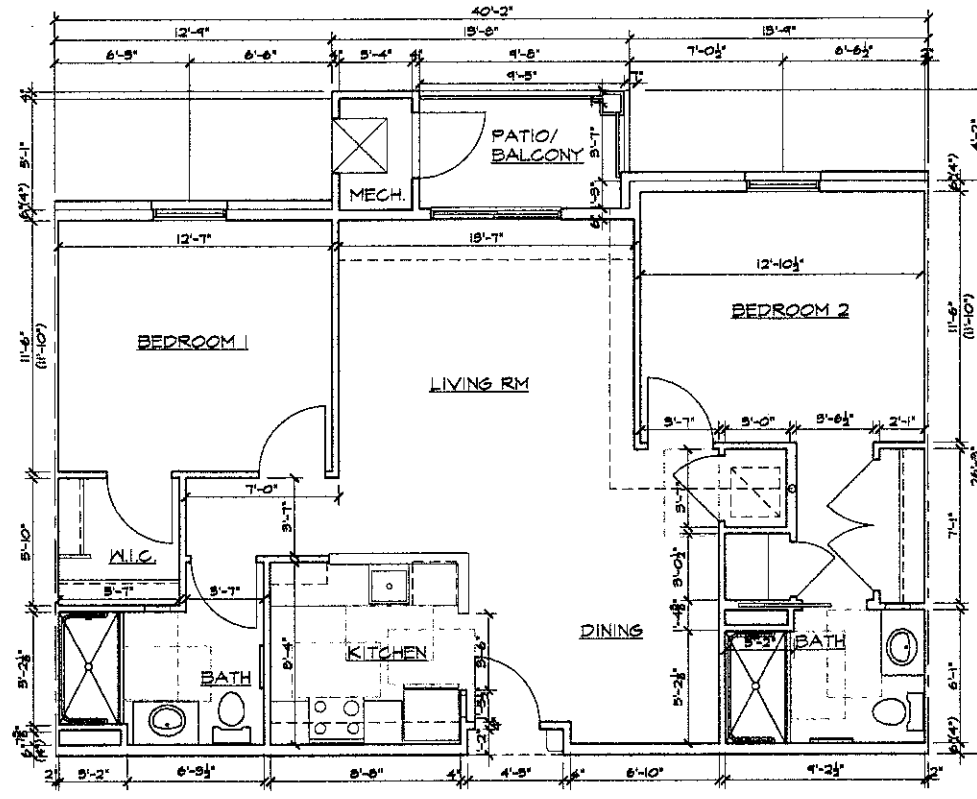


**BARRIER FREE  
 UNIT TYPE Abf**  
 SCALE: 1/4"=1'-0" AREA: 730sf

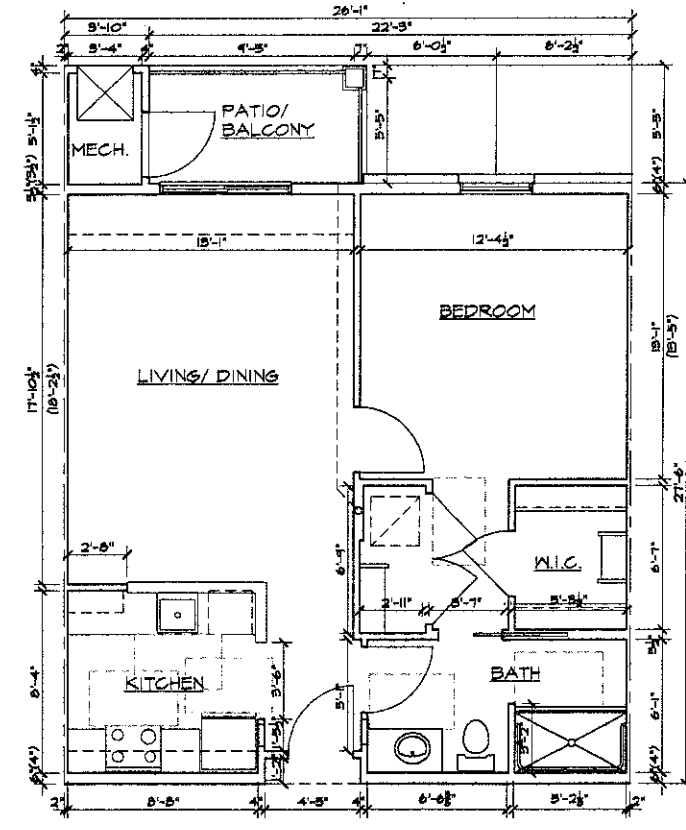
Issued For	
REVIEW	11.2.07
REVIEW	11.16.07
REVIEW	12.6.07
REVISED	12.13.07
SITE PLAN REVIEW	4.30.09
REVISED per CITY	6.26.09



**UNIT TYPE C**  
 SCALE: 1/4"=1'-0" AREA: 989sf



**UNIT TYPE B**  
 SCALE: 1/4"=1'-0" AREA: 1050sf



**UNIT TYPE A**  
 SCALE: 1/4"=1'-0" AREA: 730sf

Contractor:  
**LIBERTY  
 CONSTRUCTION**

Developer:  
**POMKAL  
 ROCHESTER LLC**

Project:  
**OAKMONT  
 Boulevard Hills /  
 Independent  
 Senior Living**

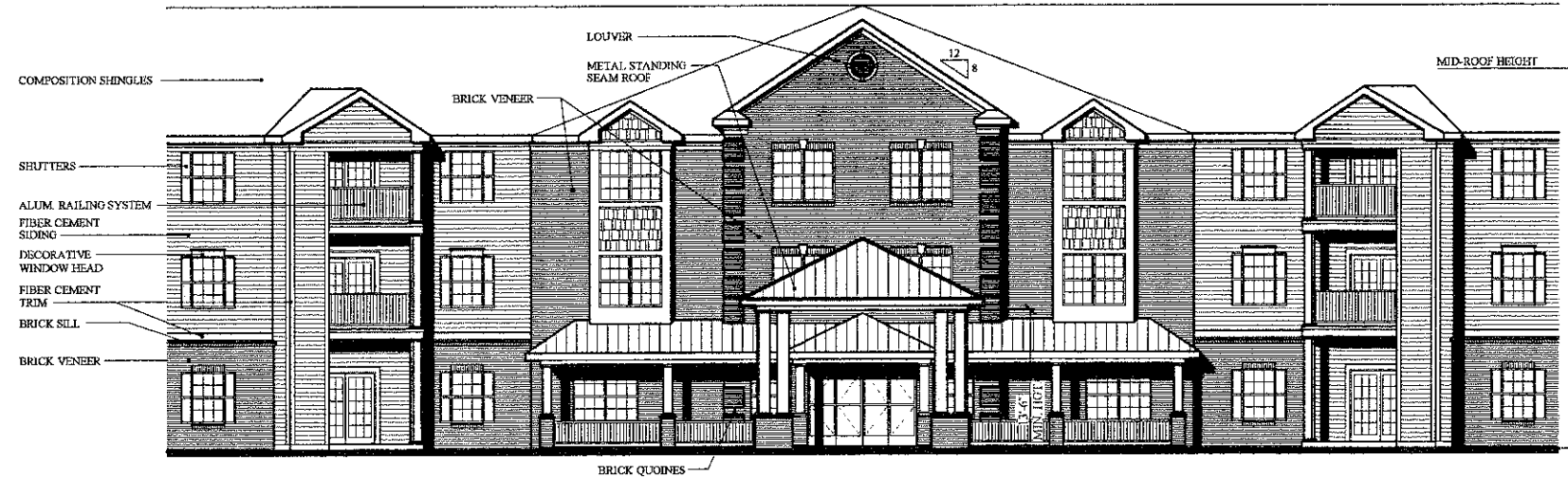
Rochester Hills, Michigan

Sheet Title:  
**TYPICAL  
 INDEPENDENT  
 UNIT PLANS**

Project Number: 07-064  
 Drawn: PA  
 Checked: PA  
 Date: 11.2.07  
 Sheet Number:

**SK4**

838 W. Long Lake #250  
 Bloomfield Hills, MI 48302  
 248 540-5940 Fax 248 540-4820  
 Email: pai@progressiveassociates.com



**FRONT ENTRY ELEVATION**  
 SCALE: 1/8"=1'-0"

Issued For:	
REVIEW	3.5.08
REVIEW	8.29.08
REVIEW	9.3.08
SITE PLAN REVIEW	4.30.09
REVISED per CITY	6.26.09
REVISED	10.28.09



**TYPICAL WING ELEVATION**  
 SCALE: 1/8"=1'-0"



**TYPICAL END ELEVATION**  
 SCALE: 1/8"=1'-0"

Contractor:  
**LIBERTY  
 CONSTRUCTION**

Developer:  
**POMKAL  
 ROCHESTER LLC**

Project:  
**OAKMONT  
 Boulevard Hills/  
 Independent  
 Senior Living**  
 Rochester Hills, Michigan

Sheet Title:  
**CONCEPT  
 ELEVATIONS**

Project Number: 07-064  
 Drawn: VC:RGG  
 Checked: DT  
 Date: 10.30.07  
 Sheet Number:

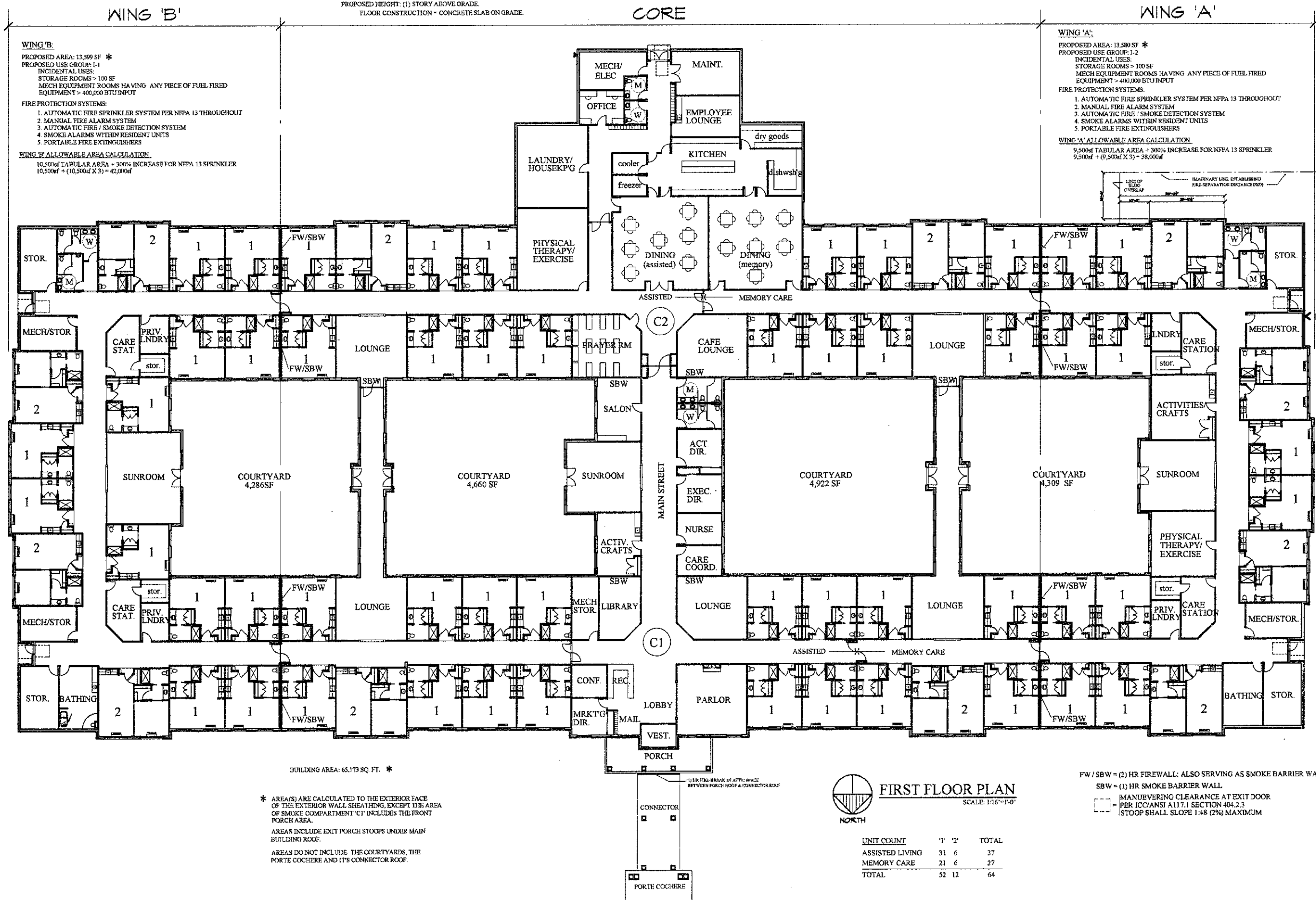
**SK5**



**GENERAL BLDG & CODE DATA:**  
 THE STRUCTURE IS A LICENSED HOME FOR THE AGED / ASSISTED LIVING BUILDING AND INCLUDES ROOMS & SPACES FOR ACCESSORY AND INCIDENTAL USES.  
 THE STRUCTURE IS DIVIDED INTO (3) SEPARATE BUILDINGS BY FIRE WALLS HAVING A (2) HOUR FIRE RESISTANCE RATING IN ACCORDANCE WITH NBC SECTION 705.  
 FIRE WALLS ALSO SERVE AS SMOKE BARRIER WALLS FOR THE PURPOSE OF COMPARTMENTALIZING THE BUILDING IN ACCORDANCE WITH NBC SECTION 407.4 & NFPA 101-97 SECTION 12-3.7  
**PROPOSED CONSTRUCTION TYPE:**  
 "VA" - PROTECTED WOOD FRAME PER MBC  
 "V1.1.1" - PROTECTED WOOD FRAME PER NFPA 101-1997  
**FIRE RESISTANCE RATING OF BLDG STRUCTURAL ELEMENTS:**  
 EXTERIOR WALLS (BEARING & NON-BEARING): (1) HOUR  
 INTERIOR BEARING WALLS & COLUMNS: (3) HOUR  
 FLOOR-CEILING ASSEMBLIES: (1) HOUR  
 ROOF-CEILING ASSEMBLIES: (1) HOUR  
**PROPOSED HEIGHT: (1) STORY ABOVE GRADE.**  
**FLOOR CONSTRUCTION = CONCRETE SLAB ON GRADE.**

**CORE:**  
 AREA: 37,994 SF \*  
 PROPOSED USE GROUPS: A2, A3, B, I-1, I-2  
 NON-SEPARATED MIXED USE  
 THE CORE IS FURTHER DIVIDED INTO (2) SMOKE COMPARTMENTS BY (1) HOUR SMOKE BARRIER WALLS IN ACCORDANCE WITH NBC SECTION 407.4 & NFPA 101-97 SECTION 12-3.7  
 SMOKE COMPARTMENT C1 = 19,139 SF \*  
 SMOKE COMPARTMENT C2 = 18,855 SF \*  
**INCIDENTAL USES:**  
 STORAGE ROOMS > 100 SF  
 MECH EQUIPMENT ROOMS CONTAINING FUEL FIRED EQUIPMENT  
 BOILER ROOMS WHERE LARGEST PIECE OF EQUIPMENT IS OVER 150hp AND 10hp  
 LAUNDRY ROOM > 100 SF  
 SOLID LINED ROOMS  
 TRASH COLLECTION ROOMS  
**ALLOWABLE CORE AREA - BASED ON MOST RESTRICTIVE USE (I-2)**  
 9,500sf TABULAR AREA + 300% INCREASE FOR NFPA 13 SPRINKLER  
 9,500sf + (9,500sf X 3) = 38,000sf  
**CORE FIRE PROTECTION SYSTEMS:**  
 1. AUTOMATIC FIRE SPRINKLER SYSTEM PER NFPA 13 THROUGHOUT  
 2. MANUAL FIRE ALARM SYSTEM  
 3. AUTOMATIC FIRE / SMOKE DETECTION SYSTEM  
 4. SMOKE ALARMS WITHIN RESIDENT UNITS  
 5. PORTABLE FIRE EXTINGUISHERS

**ALLOWABLE WALL OPENING AREA @ S-W CORNER OF WING 'A' FACING THE CONGREGATE BUILDING:**  
 FIRE SEPARATION DISTANCE = 16'  
 ALLOWABLE UNPROTECTED OPENING AREA BASED ON TABLE 704.8 & SECTION 704.8.1 FOR BLDG w/ AUTOMATIC SPRINKLER SYSTEM PER NFPA 13 = 75%  
 AREA OF WALL OVERLAP: 36' x 8' = 288 SQ. FT.  
 PROPOSED WINDOWS: (2) 7'-6" x 5' WINDOWS + (1) 5' x 5' WINDOW = 100 SQ. FT.  
 PROPOSED THRU-WALL A/C UNITS: (2) 1.5 x 1.5 FT. = 14 SQ. FT.  
 TOTAL AREA OF OPENINGS = 114 SQ. FT.  
 114 / 288 = 39%, 39.6% < 75%; THEREFORE WINDOWS ARE ACCEPTABLE.  
**FIRE RATING OF WEST WALLS OF CORE:**  
 PER TABLE 602, FOR FSD > 10', < 30' REQ'D FIRE RESISTANCE RATING = 1 HOUR.  
 BASED ON TYPE "VA" CONSTRUCTION ALL EXTERIOR WALLS ARE (1) HOUR FIRE RATED.  
 EXT WALLS HAVING GREATER THAN 5' FSD REQUIRE WALL TO BE RATED FROM INSIDE ONLY.



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REVIEW	11.2.07
REVIEW	11.15.07
REVIEW	12.6.07
REVISED	12.13.07
REVISED	2.18.08
REVISED	12.22.08
REVISED	1.6.09
REVIEW	3.9.09
REVIEW	3.25.09
REVISED	6.8.09
REVISED per CITY	6.26.09
REVISED Core & Wing Areas	9.25.09 per CITY

Contractor:  
**LIBERTY CONSTRUCTION**  
 Developer:  
**POMKAL ROCHESTER LLC**

Project:  
**OAKMONT Boulevard Hills / Assisted Living**  
 Rochester Hills, Michigan  
 Sheet Title:

**PROPOSED FIRST FLOOR PLAN**  
 Project Number: 07-064  
 Drawn: PA  
 Checked: PA  
 Date: 11.2.07  
 Sheet Number: **SK6**

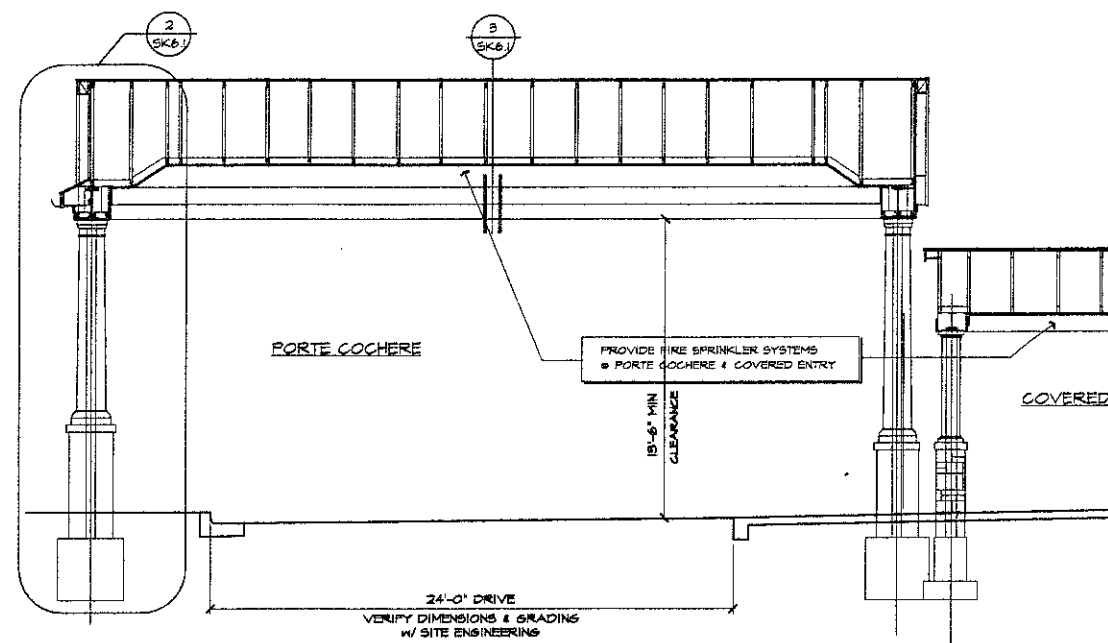
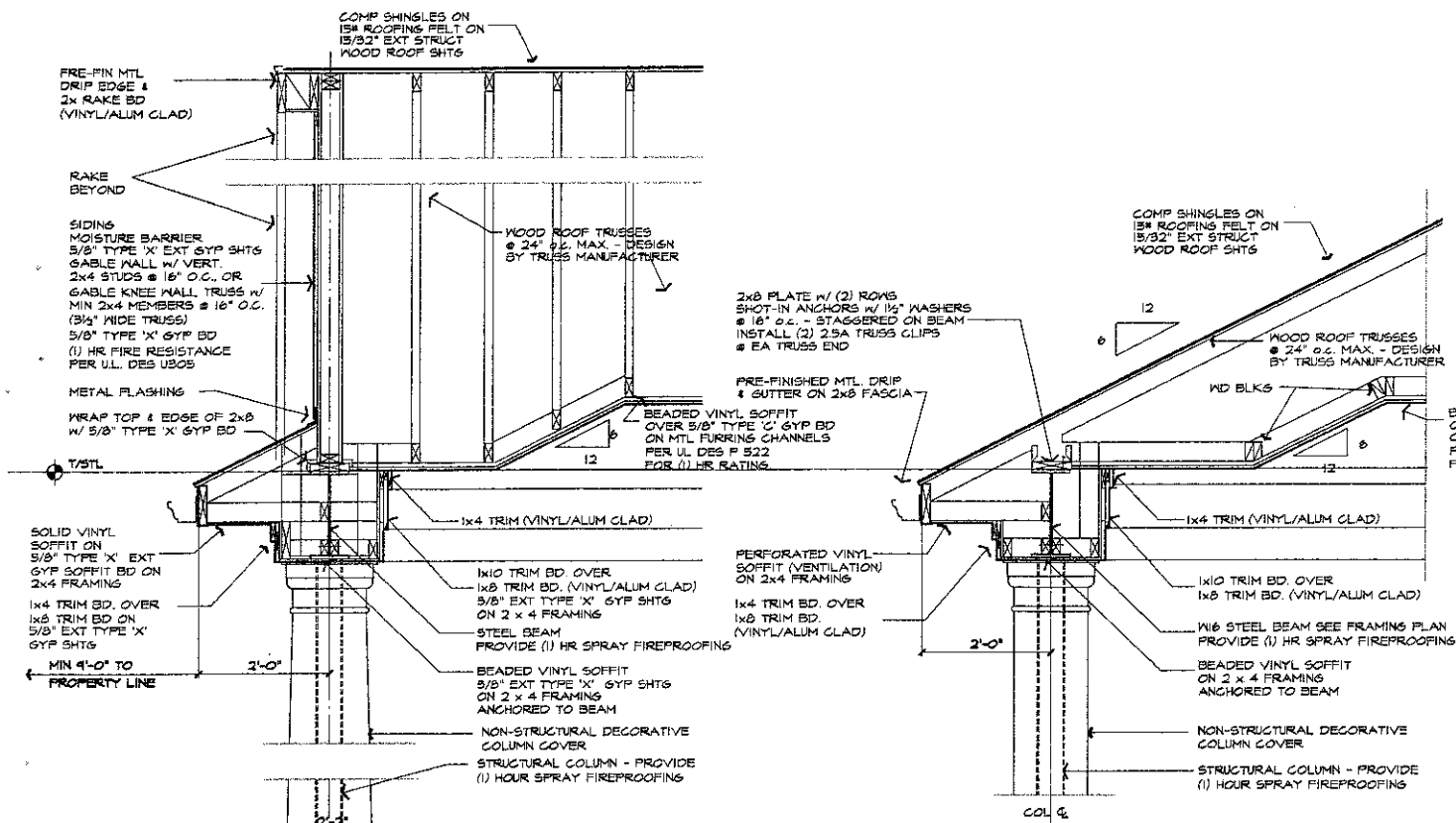
**FIRST FLOOR PLAN**  
 SCALE: 1/16" = 1'-0"

UNIT COUNT	'1'	'2'	TOTAL
ASSISTED LIVING	31	6	37
MEMORY CARE	21	6	27
TOTAL	52	12	64

\* AREA(S) ARE CALCULATED TO THE EXTERIOR FACE OF THE EXTERIOR WALL SHEATHING, EXCEPT THE AREA OF SMOKE COMPARTMENT 'C1' INCLUDES THE FRONT PORCH AREA.  
 AREAS INCLUDE EXIT PORCH STOOPS UNDER MAIN BUILDING ROOF.  
 AREAS DO NOT INCLUDE THE COURTYARDS, THE PORTE COCHERE AND ITS CONNECTOR ROOF.

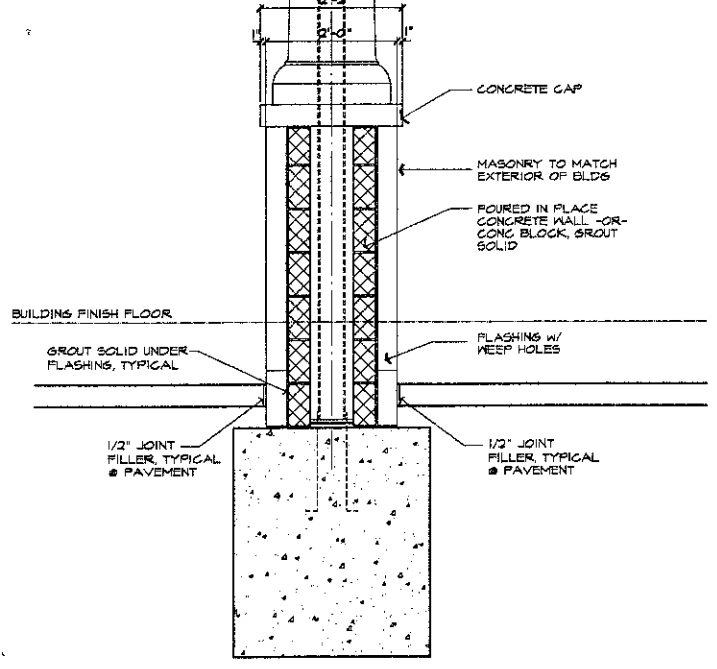
FW / SBW = (2) HR FIREWALL; ALSO SERVING AS SMOKE BARRIER WALL.  
 SBW = (1) HR SMOKE BARRIER WALL.  
 [Symbol] = MANUEVERING CLEARANCE AT EXIT DOOR PER ICC/ANSI A117.1 SECTION 404.2.3  
 [Symbol] = STOOP SHALL SLOPE 1:48 (2%) MAXIMUM

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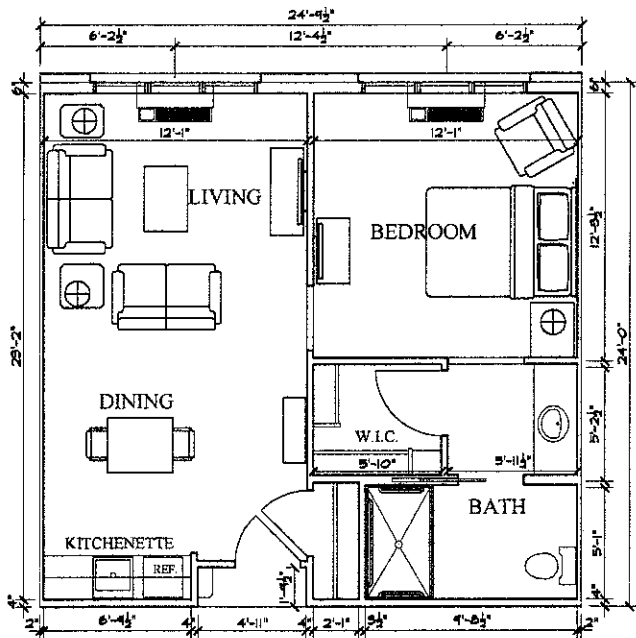


**1** SCHEMATIC SECTION thru PORTE COCHERE  
 SK6.1 SCALE: 1/4" = 1'-0"

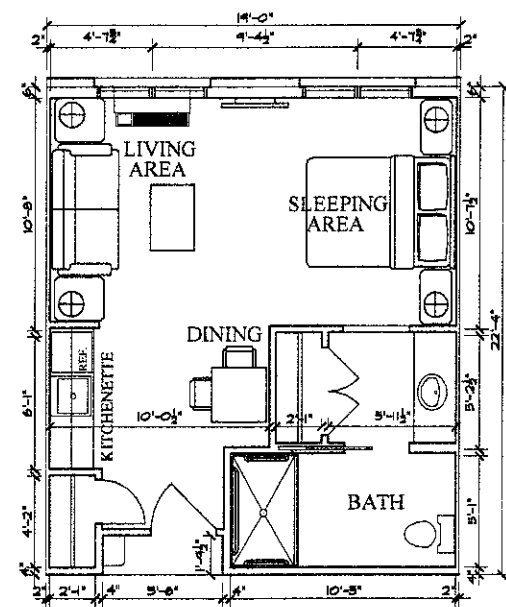
**3** CORNICIE DETAIL @ PORTE COCHERE  
 SK6.1 SCALE: 3/4" = 1'-0"



**2** COLUMN / GABLE DETAIL @ PORTE COCHERE  
 SK6.1 SCALE: 3/4" = 1'-0"



**FLOOR PLAN UNIT TYPE 2**  
 SCALE: 1/4" = 1'-0" AREA: 586sf



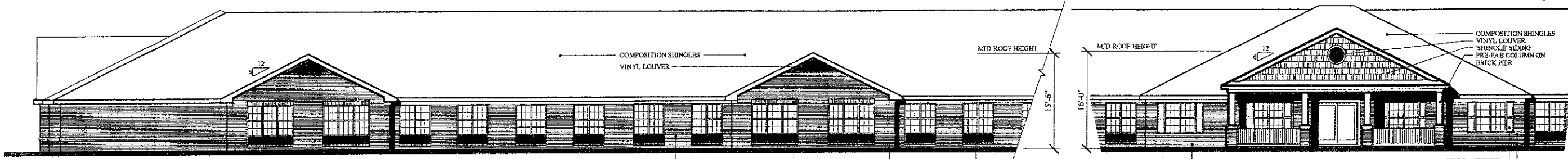
**FLOOR PLAN UNIT TYPE 1**  
 SCALE: 1/4" = 1'-0" AREA: 414sf

Issued For:	
REVIEW	1.6.09
REVIEW	3.9.09
SITE PLAN REVIEW	4.30.09
REVISED per CITY	6.26.09
PORTE COCHERE DETAILS	9.25.09

Contractor:	LIBERTY CONSTRUCTION
Developer:	POMKAL ROCHESTER LLC
Project:	OAKMONT Boulevard Hills Assisted Living Rochester Hills, Michigan
Sheet Title:	PROPOSED UNIT PLANS

Project Number:	07-064
Drawn:	PA
Checked:	PA
Date:	11.2.07
Sheet Number:	SK6.1

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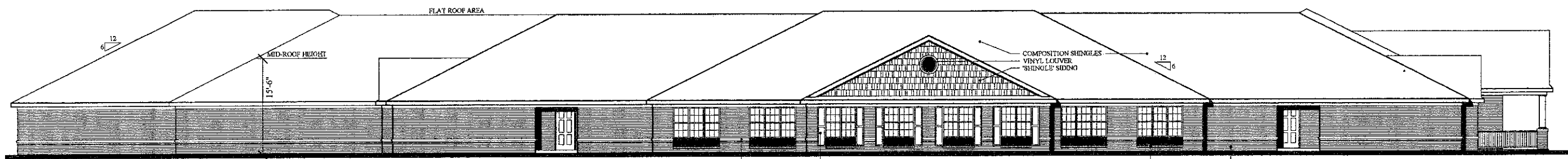


2 PARTIAL FRONT WING ELEVATION  
 SK7 SCALE: 1/8"=1'-0"

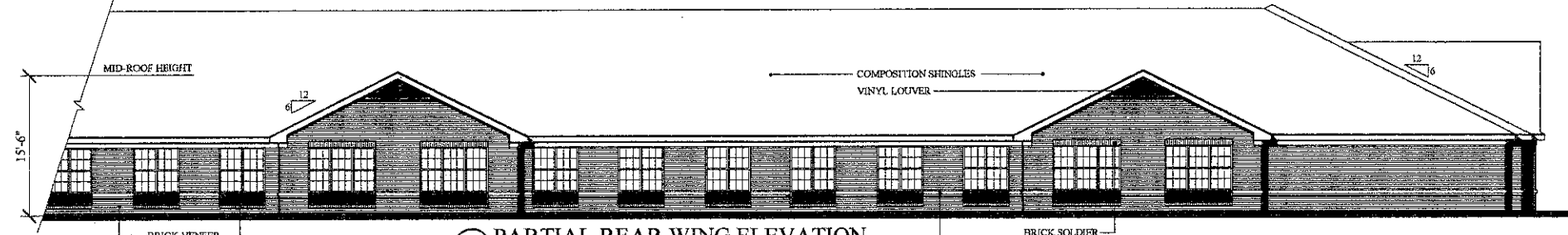
1 FRONT ENTRY ELEVATION  
 SK7 SCALE: 1/8"=1'-0"

NOTE: COVERED ENTRY (PORTE COCHERE)  
 NOT SHOWN.  
 PORTE COCHERE MIN CLEARANCE 13'-6" HT  
 (SEE SHEET ASP)

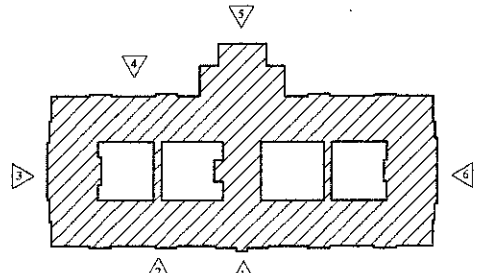
Issued For:
REVIEW
1.2.07
REVIEW
1.7.09
REVIEW
3.09.09
REVIEW
3.25.09
SITE PLAN REVIEW
4.30.09
REVISED per CITY
6.26.09



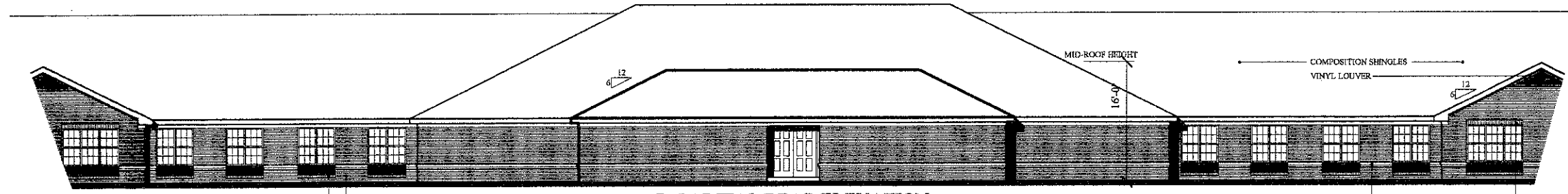
3 SIDE ELEVATION  
 SK7 SCALE: 1/8"=1'-0"



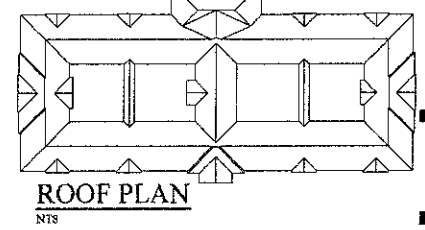
4 PARTIAL REAR WING ELEVATION  
 SK7 SCALE: 1/8"=1'-0"



KEY PLAN  
 NTS



5 PARTIAL REAR ELEVATION  
 SK7 SCALE: 1/8"=1'-0"



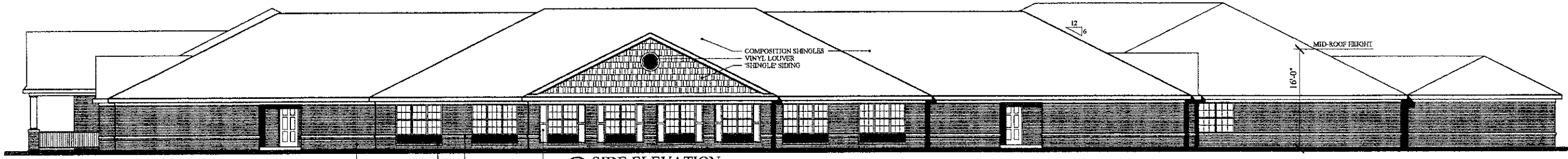
ROOF PLAN  
 NTS

Contractor:  
**LIBERTY  
 CONSTRUCTION**

Developer:  
**POMKAL  
 ROCHESTER LLC**

Project:  
**OAKMONT  
 Boulevard Hills /  
 Assisted Living**  
 Rochester Hills, Michigan

Sheet Title:  
**CONCEPT  
 ELEVATIONS**



6 SIDE ELEVATION  
 SK7 SCALE: 1/8"=1'-0"

Project Number: 07-064  
 Drawn: VC,RGG  
 Checked: DT  
 Date: 10.30.07  
 Sheet Number:

**SK7**