LLE ROAD and LAKESIDE ROAD, BRAESIDE ROAD CAROL COURT, DELTA E nineteen (19) feet; except roadways shall be widened cleaning said proposed consary easements, constructing County Line Road at Lake surplus excavated materials rials, and expenses necessary workmanlike manner, all in and State of Illinois.

inance is farther shown and showing plans, profiles, and hed, made a part bereof and

File No. H. P. 8643; Plate 8645; Plate 4, File No. H. P. File No. H. P. 8648; Plate 7 8650; Plate 9, File No. H. P. File No. H. P. 8653; Plate 12 8655; Plate 14, File No. H. P. Fale No. H. P. 8658; Plate 17. 1660; Plate 19, File No. H. P. 723; Plate 23, File No. H. p. File No. H. P. 8712; Plate 26. 714; Plate 28, File No. H. P. File No. H. P. 8725; Plate P. 8727; said plates and each ade a part of this ordinance ans, profiles and details upon and figures herein.

e used in this ordinance, the EMENTS: the Board of Lo-

. Illinois. nts of the City of Highland oration as said Board shall to the construction of the to berein. The said Board s, make measurements, and sary surveys, plans and proherein provided to be con-

a vertical line one hundred ) feet below the top of the rner of said City Hall in said e finished grade as shown in ites or drawings, are given estalished datum of the City

ingle verticle dash is shown ndicate "feet," and wherever above and to the right of a line above the established da-

drawings. shove datum of that portion fically made. unface of the pavement ad-

wm of the pavement at the

where the pavement is to be k of the curb. readway on which the pave-

herein proposed to be conor sewer, herein provided

or manhale catchbasins, shall

mprovement shall consist of s, catchbasin manholes, drop walls, all connected together proposed improvement.

and DROP INLETS. points of the improvement ) catchbasins, eighty-seven inlets, all connected to the as shown on said Plates 1 n on said Plates 18, 23 and

structed shall be constructcomposed by volume of one , and four (4) parts gravel to make a quaking mass. hall be laid with full joints a trowel, composed by vol-(2) parts sand, mixed with he holes around the outside. ad, and all surplus excavatat the improvement, all be four (4) feet at the

hree (3) feet below the top ter shall be uniformly dethe masenry, in such manvided. Side walls and botom shall extend to the outof masonry work shall be vided with an eight (8) inch n a trap, and also for conn shall be provided with an nsisting of a frame weigha perforated lid weighing on top of the masonry in ash with the finished grade of said lid shall be twentyheight of the frame shall of the metal in the cover details for the construction hown on said Plate 18.

herein provided to be conher blocks or monolithic), ement, two (2) parts sand, ked with sufficient water to ete blocks, said blocks shall nted on the inside with a Portland cement, and two nake a quaking mass. The nanholes shall be backfilled shall be removed from the

hole shall be four (4) feet plane three (3) feet below diameter shall be uniformop of the masonry, in such provided. Side walls and hottom shall extend to the bottom shall be three (3) cts as the outlet for said shall be provided with an sisting of a frame weigha perforated hid weighing on top of the masonry in ish with the finished grade of said lid shall be twentyght of the frame shall be he metal in the cover shall ils for the construction of are shown on said Plate

constructed shall be con-), composed by volume of , and four (4) parts gravto make a quaking mass. all be laid with full joints trowel, composed by vol-2) parts sand, mixed with he filling material around the thickness of which as drop inlets, shall be one on top of and as an inamage is discharged, and t the same diameter and tom. The inside diameter bottom thereof where it plane the diameter shall at the top of the masonver herein provided. Side p inlet shall be provided ver consisting of a frame nd a perforated lid weighe on top of the masonry sh with the finished grade r the construction of said

drop inlets are shown on said Plates 23 and 24. The diameter of said Bd shall be twenty-two and three-quarters (22 3-4) inches, the height of the frame shall be nine (9) inches, and the average thickness of the metal in the cover shall be one and one-half (1 1-2) inches. TILE PIPE DRAINS.

There shall be constructed along the lines and at the elevations as shown on Plates 1 to 16, inclusive, the following drains, which shall be constructed of vitrified, salt-glazed; hub and spigot tile sewer pipe of the internal diameter, as indicated by the size stated below. All tile sewer nine over twelve (12) inches in diameter shall be double strength. Said drains shall be laid under the proposed payement or walks, with joints of mortar, composed by volume of one (1) part Portland cement and two (2) parts sand, mixed with sufficient water to make a quaking mass; and the trench shall be backfilled with sand from the bottom of the trench to the under surface of the payement, and all surplus excavated material shall be removed from the site of the improvement. The depth of drains in all instances refers to the depth of the flow line of said drains. Said tile pipe drains shall connect to the herein proposed catchbasins and catchbasin manholes, in a manner to properly drain the proposed improve-

Fifty (50) lineal feet of six (6) inch tile pipe drain, laid at an average depth of four and one-half (4 1-2) feet below the top of

the curb. Eight hundred twenty six (826) lineal feet of eight (8) inch tile pipe drain, laid at an average depth of six and one-half (6 1-2)

feet below the top of the pavement. Three hundred forty-six (346) lineal feet of ten (10) inch tile pipe drain, laid at an average depth of six and one-half (61/2) feet below the top of the pavement.

Two hundred sixty nine (269) lineal feet of twelve (12) inch tile pipe drain, laid at an average depth of six and one-half (6 1-2) feet below the top of the pavement. Fifty-six (56) lineal feet of fifteen (15) inch tile pipe drain, laid

Twenty-five (25) lineal feet of eighteen (18) inch tile pipe drain, laid at an average depth of six and one-half (6 1-2) feet below the top of the pavement. Nineteen (19) lineal feet of twenty-four (24) inch tile pipe drain, laid at an average depth of six (6) feet below the present

at an average depth of six, (6) feet below the top of the pave-

ground. There shall be constructed along the lines and at the elevations shown on Plates 1 to 16, inclusive, the following drains, which shall be constructed of vitrified, salt-glazed, hub and spigot tile sewer pipe of the internal diameter as indicated by the size stated below. All tile sewer nipe over twelve (12) inches in diameter shall be double strength. Said drains shall be laid with open joints, across the street at certain ravines, and in the parkways along lines parallel with and two (2) feet from the back of the curbs, except at catchbasins, catchbasin-manholes, and drop

inlets, where they shall curve toward the center line of the proposed pavement and connect with said catchbasins, catchbasin-manholes, or drop mlets. The trenches for said drains shall be backfilled with earth, and all surplus material shall be removed from the site of the improvement. The depth of drains in all instances refers to the flow line of said drains. Seven thousand seven hundred twenty (7720) lineal feet of

six (6) inch tile pipe drain, laid at an average depth of three and one-half (3 1-2) feet below the top of the curb. Eight thousand one hundred ninety eight (8198) lineal feet of eight (8) inch tile pipe drain, laid at an average depth of six (6) feet below the top of the curb. Two thousand eight hundred thirty-eight (2838) lineal feet of

ten (10) inch tile pipe drain, laid at an average depth of seven (7) feet below the top of the curb. One thousand nine hundred ninety one (1991) lineal feet of twelve (12) inch tile pipe drain, laid at an average depth of

seven (7) feet below the top of the curb. Nine hundred sixty (960) lineal feet of fifteen (15) inch tile pipe drain, laid at an average depth of six (6) feet below the top of the curb. One hundred forty-five (145) lineal feet of eighteen (18) inch tile pipe drain, laid at an average depth of six (6) feet below

the top of the curb. . Two hundred ninety eight (298) lineal feet of twenty-four (24) inch tile pipe drain, laid at an average depth of seven (7) feet below the top of the curb.

There shall be constructed along the lines and at the elevations as shown on said Plates 2, 12 and 14, the following outlet drains, which shall be constructed of bell and spigot cast iron pipe, of the internal diameter as indicated by the size stated below. Said pipe for said cutlet drains shall be laid with joints of lead and oakum thoroughly calked into place. Each of said outlet drains shall be connected at its upper end to one of the herein proposed catchbasin manholes, and the lower end shall pass through one of the herein proposed headwalls or retaining walls, and shall be firmly cemented in place in said headwall or retaining wall. Each twelve (12) foot length of eight (8) inch cast iron pipe shall weigh five hundred fifteen (515) pounds, each twelve (12) foot length of ten (10) inch cast iron pipe shall weigh six hundred eighty five (685) pounds, and each twelve (12) foot length of eighteen (18) inch cast iron pipe shall weigh fifteen hundred fifty (1550) pounds. Said drains shall be laid at an average depth of five (5) feet below the surface of the ground where located. The trenches shall be backfilled with earth, and all surplus excavated material shall be removed from the site of the improvement. The depth of said outlet drains refers in all instances, to the flow line of said outlet drains.

Thirty four (34) lineal feet of eight (8) inch outlet drain. Twenty-four (24) lineal feet of ten (10) inch outlet drain. Eighty (80) lineal feet of eighteen (18) inch outlet drain.

HEADWALLS. There shall be constructed at the location as shown on said Plates 1, 2, 14 and 17, the following headwalls for outlet drains. Said headwalls shall be constructed of concrete composed by volume of one (1) part Portland cement, two (2) parts sand, and four (4) parts gravel or crushed stone, mixed with sufficient water to make a quaking mass, except that the portion left exposed after the backfilling is done, shall be constructed to a depth of one (1) inch of mortar, composed by volume of one (1) part Portland coment and two (2) parts sand, mixed with sufficient water to make a quaking mass. The bottom of said headwalls shall be three (3) feet below the flow line of the outlet drain where, located. The necessary excavation shall be made, the holes around said headwalls shall be backfilled with earth, and all surplus excavated material shall be removed from the site of the improvement. The details for the construction of said headwalls is shown on said Plate 18.

One (1) headwall, to be constructed in First Addition to Ravinia Forest, in the ravine north of Carol Court. Said headwall shall be five (5) feet long, five (5) feet in height, with the bottom twenty-four (24) inches thick, and the top ten (10) inches thick, centaining one and four-tenths (1.4) cubic yards of con-

One (1) headwall, to be constructed along the west side of Lincolnwood Road at lot 18, Second Addition to Ravinia Forest, Said headwall shall be five (5) feet long, six (6) feet in height, with the bottom twenty-four (24) inches thick, and the top ten (10) inches thick, containing one and six-tenths (1.6) cubic yards of concrete.

One (1) headwall, to be constructed in the ravine between lots 20 and 21, First Addition to Ravinia Forest. Said headwall shall be ten (10) feet long, seven (7) feet in height, with the bottom twenty-four (24) inches thick, and the top twelve (12) inches thick, containing four (4) cubic yards of concrete. RETAINING WALLS.

There shall be constructed at the location as shown on said Plates 9, 12, 16 and 17, the following reinforced concrete retaining walls. The footings and body portion of the retaining walls, and of the railings and opings, where required, shall be composed by volume of one (1) part Pertland cement, two (2) parts sand, and four (4) parts gravel or crushed stone, mixed with sufficient water to make a quaking mass. The portion of retaining walls, and of railings and copings, where required which is left exposed after the backfilling is done, shall be constructed to a depth of one (1) inch of mortar composed by volume of one (1) part Portland cement and two (2) parts sand, mixed with sufficient water to make a quaking mass. The necessary excavation shall be made including the removal of all old tree stumps, and the holes around said walls shall be backfilled with earth, except that the rear of those retaining walls proposed to be constructed along the east and west sides of Lakeside Place shall be backfilled with gravel or crushed stone to a thickness of one (1) foot, from the top of the footings to the top of said retaining walls for the entire length of said retaining walls. Four (4) inch vitrified, salt-glazed, hub and spigot tile sewer pipe shall be laid in the backfill material at the rear of said retaining walls along the cast and west sides of Lakeside Place in such manner as to form drains

for said backfill material. One (1) reinforced concrete retaining wall to be located along the west line of Dell Lane, with opening for a twenty-four (24) inch pipe: FOOTING two (2) feet high, twelve (12) feet long. and seven (7) feet wide; WALL eleven (11) feet high, twelve (12) feet long, and one foot three inches (1'-3") wide; RAIL-ING three (3) feet high, twelve (12) feet long, and one foot three inches (1'-3") thick; COPING six (6) inches high, twelve feet four inches (12'-4") long, and one foot seven inches (1'-7") wide; containing fourteen and one-half (14 1-2) cubic yards of concrete, reinforced with eight hundred fifty two (852) pounds of one-half (1-2) inch square deformed steel reinforcing bars. including removal of all old tree stumps, the location of said retaining wall is shown on said Plate 16, and the detail for

construction on said Plate 20. One (1) reinforced concrete retaining wall to be located along the east side of Dell Lane, with opening for twenty-four (24) inch pipe; FOOTING two (2) feet high ,thirty-nine (39) feet long, and seven (7) feet wide; WALLS, CENTER SECTION twelve feet six inches (12'-6") high, eleven feet six inches (11'-

6") long, and one foot three inches (1'-3") thick; NORTH IN-TERMEDIATE SECTION nine feet six inches (9'-6") high, six feet nine inches (6'-9") long, and one foot three inches (1'-3") thick; NORTH SECTION six feet six inches (6'-6") high, six feet six inches (6'-6") long, and one foot three inches (1'-3") thick; SOUTH INTERMEDIATE SECTION eight feet six inches (8'-6") high, five (5) feet long, and one foot three inches (1'-3") thick; SOUTH SECTION five (5) feet high, five feet three inches (5'-3") long, and one foot three inches (1'-3") thick; RAILING three (3) feet high, thirty-five (35) feet long, and one foot three inches (1-3") thick; coping six (6) inches high, thirty-five feet four inches (35'-4") long, and one foot seven inches (1'-7") wide; containing forty three and one-half (43.5) cubic yards of concrete reinforced with twenty-four hundred eighty six (2486) pounds of one-half (1-2) inch square deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 16, and the Details for construction on said Plate 20.

One (1) reinforced concrete retaining wall without railings or copings, located on the east side of Lakeside Place, across two (2) ravines, with an opening for a five (5) foot by seven (7) foot concrete culvert, a ten (10) inch cast iron pipe, and an existing twenty-four (24) inch inside diameter cast iron pipe; FOOTING two feet six inches (2'-6") thick by one hundred eighty (180) feet long, and a maximum width of twelve (12) feet; WALL maximum thickness two (2) feet by one hundred and eighty (180) feet long, and maximum height from top of footing, seventeen feet four inches (17'-4"); containing three hundred fifty three (353) yards of concrete, reinforced with twenty-eight thousand eight hundred thirty three (28,833)) pounds of square deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 12, and the details for construction on said Plate 28.

One (1) reinforced concrete retaining wall without railings or copings, located in the west side of Lakeside Place, across the south ravine, with an opening for a five (5) foot by seven (7) foot concrete culvert; FOOTING two feet six inches (2'-6") thick, by eighty nine (89) feet long, and maximum width of twelve (12) feet; WALL, maximum thickness two (2) feet by eighty nine (89) feet long, and maximum height from top of footing seventeen (17) feet, containing one hundred seventy four (174) cubic yards of concrete reinforced with thirteen thousand eight hundred (13,800) pounds of square deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 12, and the details for construction on said Plate 26.

One (1) reinforced concrete retaining wall, without railings or copings, to be located in the west side of Lakeside Place, across the north ravine, with an opening for a present two (2) foot inside diameter cast iron pipe; FOOTING, two feet six (2'-6") thick, by seventy (70) feet long, and maximum height from top of footing, fourteen feet nine inches (14'-9"), containing one hundred thirty-one (131) cubic yards of concrete, reinforced with eleven thousand one hundred (11,100) pounds of square deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 12, and the details for construction on said Plate 27.

One (1) reinforced retaining wall, without railings or copings, to be located along the north-line of BROWNVILLE ROAD, across the west ravine, with an opening for a five (5) foot by seven (7) foot inside dimension culvert; FOOTING, two feet six inches (2'-6") high, eight feet six inches (8'-6") wide, and seventy three (73) feet long; WALL, average thickness one foot six inches (1'-6"), ten feet six inches (10'-6"), high from top of footing to top of wall, seventy two (72) feet long; containing one hundred eight (108) cubic yards of concrete reinforced with nine thousand one hundred seventy (9170) pounds of deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 9, and the details for construction on said Plate 31.

One (1) reinforced concrete retaining wall, without railings or copings, to be located along the south side of BROWNVILLE ROAD across the west ravine, with an opening for a five (5) foot by seven (7) foot inside dimension culvert; FOOTING, two feet six inches (2'-6") high, eight feet six inches (8'-6") wide, and seventy two feet six inches (72'-6") long; WALL, average thickness one foot six inches (1'-6"), the westerly forty nine feet six inches (49'-6") shall be seven (7) feet high from top of footing, the easterly twenty-two (22) feet shall be nine feet six inches (9'-6") high from top of footing: containing ninety three (93) cubic yards of concrete reinforced with sixty cubic yards of concrete reinforced with sixty eight hundred seventy (6870) pounds of deformed steel reinforcing bars; the location of said headwall is shown on said Plate 9, and the de-

details for construction on said Plate 32. One (1) reinforced concrete retaining wall to be located along the north line of Brownville Road across the east ravine, with an opening for a two (2) foot by two (2) foot inside dimension culvert; FOOTING, two feet six inches (2"-6") thick, in the center section nine (9) feet in width and sixteen feet six inches (16'-6") long; in the west section seven (7) feet wide and nine feet six inches (9'-6") long; in the east section eight feet six inches (8'-6") wide, and ten (10) feet long; WALL, average thickness one foot six inches (1'-6"); in the center section twelve (12) feet high, fifteen (15) feet long; in the west section seven (7) feet high, eight (8) feet long; in the east section nine feet six inches (9'-6") high, ten (10) feet long, the height measured from the top of the footing; RAILING, one foct three inches (1'-3") thick, three (3) feet high, and thirtythree (33) feet long; COPING, six inches thick, one foot seven inches (1'-7") wide, thirty three feet four inches (33'-4") long: containing fifty four (54) cubic yards of concrete reinforced with thirty two hundred (3200) pounds of deformed steel reinforcing bars; the location of said retaining wall is shown on said Plate 9, and the details for construction on said Plate 29. One (1) retaining wall to be located along the south line of Brownville Road, across the east ravine, with an opening for a two (2) fcot by two (2) foot inside dimension culvert; FOOT-ING, two feet six inches (2'-6") thick, nine (9) feet wide, twenty-seven (27) feet long; WALL, average thickness one foot six inches (1'-6") thick, ten (10) feet high, as measured from top of footing, twenty-six (26) feet long; RAILING, one foot three inches (1'-3") thick, three (3) feet high, twenty six (26) feet long; COPING, six (6) inches thick, one foot seven inches (1'-7") wide, twenty six feet four inches (26'-4") long; containing forty three (43) cubic yards of concrete, reinforced with thirty one hundred fifty (3150) pounds of deformed reinforcing steel bars; the location of said retaining wall is shown on said Plate 9, and the details for construction on said Plate 30.

CULVERTS. There shall be constructed at the locations as shown on said Plates 2, 6, and 17, the following reinforced concrete culverts with headwalls. Said culverts and the body portion of said headwalls shall be constructed of concrete composed by volume of one (1) part Portland cement, two (2) parts sand, and four (4) parts gravel or crushed stone mixed with sufficient water to make a quaking mass; the portion of said headwalls left exposed after the backfilling is done, shall be constructed to a depth and parkways to the proper elevation and lines provided herein, as shown of one (1) inch of mortar composed by volume of one (1) part Portland cement and two (2) parts sand, mixed with sufficient water to make a quaking mass. All necessary excavation shall be made, and the hole around said culverts and headwalls backfilled with earth.

One (1) reinforced concrete culvert to be located across ST. JOHN'S AVE., inside diameter of barrel two (2) feet high and four (4) feet wide and sixty-four feet eight inches (64'-8") long, side walls, top and bottom nine (9) inches thick. At each end of the barrel shall be constructed a headwall without railings or copings, integral with said barrel. The west headwall shall be seven feet six inches (7'6") high, ten feet four inches (10'-4") long, and one (1) foot thick. The east headwall shall be eight feet six inches (8'-6") high, ten feet four inches (10'-4") long, and one (1) foot thick. The barrel shall contain twenty-five and one-half (25 1/2) cubic yards; the headwalls shall contain five and fifty seven hundredths (5.57) cubic yards of concrete. Total thirty one and seven hundredths (31,07) cubic yards of concrete reinforced with twenty-six hundred (2600) pounds of one-half (1/2) inch square deformed steel reinforcing bars; the location of said culvert and headwalls is shown on said Plate 6, and the details for construction on

said Plate 22. One (1) reinforced concrete culvert with headwall at each end to be located across LINCOLNWOOD ROAD, inside dimensions three (3) feet high, five (5) feet wide, sixty eight (68) feet long, cover eight (8) inches thick, side walls one (1) foot thick, footing two (2) feet thick, three (3) feet wide, struts two (2) feet high, two (2) feet wide, paving between struts four and one-half (41/2) inches thick and three (3) feet wide; containing fifty nine and seventy five hundredths (59.75) cubic yards of concrete. WEST WALL, FOOTING, two feet six inches (2'-6") high, six (6) feet wide, and thirty six (36) feet long; WALL, one foot three inches (1'-3") thick at top, four (4) feet thick at bottom, nine feet five inches (9'45") high, thirty five (35) feet long; RAILING, one foot three inches (1'-3") thick, three (3) feet high, thirty-five (35) feet long; COPING, six inches (6") high, one foot seven inches (1'-7") wide, and thirty five feet four inches (35'-4") long. EAST WALL, FOOTING, two feet six inches (2'-6") high, six (6) feet wide,, and thirty six (36) feet long; WALL, one foot three inches (1'-3") thick at top, four (4) feet thick at bottom eleven (11) feet high, and thirty-five (35) feet long; RAIL-ING, one foot three inches (1'-3") thick, three (3) feet high,

and thirty five (35) feet long; COPING, six (6) inches high, one foot seven inches (1'-7") wide, and thirty-five feet (35') four inches (4") long. Total concrete for both walls one hundred twenty and ninety-one hundredths (120.91) cubic yards; total concrete for culvert and walls one hundred eighty and sixty six hundredths (180.66) cubic yards, reinforced with twenty seven hundred fifty two (2752), pounds of one-half (1/2) inch inch square deformed steel reinforcing bars; the location of said culvert and headwalls is shown on the said Plate 2, and the details for construction on said Plate 23.

There shall be constructed at the locations as shown on said Plates 9, 12, and 17, the following reinforced concrete culverts to be connected to the opening provided in said retaining walls herein provided to be conthe openings provided in said retaining walls herein provided to be constructed. Said culverts shall be constructed of concrete composed by volume of one (1) part Portland cement, two (2) parts sand, and four (4) parts gravel or crushed stone, mixed with sufficient water to make a quaking mass. All necessary excavation shall be made, and the hole around said culverts shall be backfilled with earth.

One (1) concrete culvert to be located in ravine across LAKE-SIDE PLACE, inside dimensions five (5) feet high, seven (7) feet wide, and eighty two feet five and three-quarters inches. (82.'-5%") long; TOP SLAB, average thickness one foot one and one-half (1'4 1/2"); SIDE WALLS one foot four inches (1'-4") thick; FOOTINGS, two feet six inches (2'-6") high, three feet six inches (3'-6") wide; STRUTS, two feet six inches, (3-6") high, and three (3) feet wide; PAVEMENT, four and one-half (41/2") inches thick, and four feet ten inches (4'-10") wide; containing one hundred fifty six and eighty eight hundredths (156.88) cubic yards of concrete reinforced with eighty-one hundred thirty-four (8134) pounds of square deformed steel reinfercing bars; the location of said culvert is shown on said Plate 12, and the details for construction on said

One (1) concrete culvert in WEST RAVINE across BROWN-VILLE ROAD, inside dimensions five (5) feet high, seven (7) feet wide, seventy six (76) feet long; FOOTING, two (2) feet high, three feet two inches (3'-2") wide, seventy six (76) feet long; STRUTS, two (2) feet high, two (2) feet wide; TOP SLAB, average thickness one foot one and one half inches (1'-11/2"); SIDE WALLS, one foot two inches (1'-2") thick; PAVEMENT, four and one-half (41/2) inches thick, five (5) feet wide; containing one hundred seven (107) cubic yards of concrete reinforced with forty three hundred (4300) pounds of deformed steel reinforcing bars; the location of said culvert shown on said Plate 9, and the details for construction on said Plate 24.

One (1) concrete culvert in EAST RAVINE, across BROWN-VILLE ROAD; inside dimensions two (2) feet high, two (2) feet wide, sixty one feet nine inches (61'-9") long; walls, top, and bottom eight (8) inches thick; containing eighteen (18) cubic yards of concrete reinforced with sixteen hundred fifty (1650) pounds of deformed steel reinforcing bars; the location of said culvert is shown on Plate 9, and the details for construction on said Plate 21.

CONCRETE GUARD POSTS. There shall be constructed one hundred thirty-one (131) reinforced concrete guard posts across ravines on Lakeside Place and Brownville Road, at the locations as shown on said Plates 9, 12, 24, 25, 26, 27, and 28. Each of said guard posts shall be eight (8) inches thick by one foot wide, and six (6) feet in height, set three (3) feet in the ground, and spaced six (6) feet center to center, containing fifteen one hundredths (0.15) cubic yards of concrete composed by volume of one (1) part Portland cement, two (2) parts sand, and four (4) parts gravel or crushed stone, mixed with sufficient water to make a quaking mass, reinforced with one hundred and twelve (112) pounds of round deformed steel reinforcing bars; the detail for construction of said guard posts is shown on said

MANHOLE AND VALVE VAULT COVERS ADJUSTED. There shall be seventy four (74) present manhole or valve vault rovers on the site of the proposed improvement, that, if not already at the proper elevation shall be adjusted, by building up on the present masonry of said manholes or valve vaults, or by cutting down the said masonry and building up on same with brick masonry, so that the top of said covers will be flush with the finished surface of the pavement or ground where located. TREES REMOVED.

All trees within the lines of the proposed pavement and two (2) feet outside of said lines, shall be cut down, and the stumps grubbed out to a depth of one (1) foot below subgrade. The holes formed by grubbing out of said stumps shall be backfilled with sand, thoroughly tamped in place. All wood and brush from the trees and stumps, and all surplus excavated material shall be removed from the site of the improvement. SIDEWALK APPROACHES.

There shall be constructed at the locations as shown on said Plates I to 16, inclusive, ten thousand (10,000) square feet of concrete sidewalk approaches. The body concrete for said walks shall be four (4) inches thick, and shall be composed by volume of one (1) part Portland cement, two (2) parts sand, and five (5) parts gravel or crushed stone, mixed with sufficient water to make a quaking mass; the exposed portion to a depth of one-half (1-2) inch shall be constructed of mortar. ecomposed by volume of one (1) part Portland cement and three (3) parts sand, mixed with sufficient water to make a quaking mass. Said sidewalk approaches shall be laid on a layer of cinders six (6) inches thick, after being thoroughly compacted, the width of said sidewalk approaches shall be five (5) feet except at the present sidewalks, where they shall be widened so as to meet the present walk at right angles. All excavation and grading for said sidewalk approaches shall be done, and all surplus excavated material shall be removed from the site of the improve-FIRE HYDRANTS MOVED.

There shall be disconnected, moved, and reset to line and grade, two (2) fire hydrants on St. Johns Avenue, as shown on said Plate 5. All excavation shall be done, the necessary pipe and fittings furnished, and laid with joints of oakum and lead; the trenches shall be backfilled with sand, and all surplus excavated materials shall be removed from the site of the improvement.

SOD FURNISHED AND LAID. The shoulders of the fill across the ravines in Lakeside Place shall be covered with ten thousand nine hundred (10,900) square feet of well matted blue grass sod or its equal. Said sod shall be placed and staked down with square wood pegs three-quarters (%) of an inch square. MACADAM PAVEMENT.

There shall be constructed for pavement connections in County Line Road and for pavement across ravines in Lakeside Place, as shown in location on said Plates 12, 17, and 5, eleven hundred (1100) square yards of macadam pavement. Said macadam pavement shall be bonded with four (4) gallons of tarvia or its equal for each square yard of pavement surface, and the top shall be dressed with a one-half (%) inch layer of one-quarter (14) inch gravel. The necessary excavation shall be done, and all surplus excavated material removed from the site of the im-EXCAVATION, AND GRADING.

Excavation shall consist of the grading of the roadway and parkways herein provided to be constructed, forming of embankments or fills, shaping, sloping, rolling, and compacting necessary to bring the roadway on said Plates 1 to 16, inclusive, and the necessary excavation for culverts, headwalls; and retaining walls. Excavation shall be measured in its original position by the average end area method.

The roadway to be paved hereunder shall be so graded that after being rolled with a self-propelling roller weighing not less than four (4) tons, nor more than eight (8) tons, until thoroughly compacted, the subgrade will present a hard and even surface at the proper elevation to receive the pavement at the grade as established and shown on said Plates 1 to 16, inclusive.

The parkways within the lines of the proposed improvement shall be so graded that the finished surface of the ground of said parkways will present an even slope from the top of the said integral curb to the surface om the nearest walk to the established grade for walks, or to the surface of the ground at the nearest lot lines, as shown on said Plate 19 and 19A.

Said parkways shall be levelled and hand-raked and all rubbish removed to one (1) foot below the finished grade of said parkways. All surplus excavated material shall be removed from the site of the mprovement.

PAVEMENT. CONCRETE PAVEMENT AND INTEGRAL CURBS.

Upon the subgrade as above prepared shall be constructed a one (1) course reinforced concrete pavement with integral curbs. The width of the pavement herein provided to be constructed, and the radii of the curves at the street intersections and turnarounds, shall be as hereinbefore specified, and as shown on said Plates 1 to 16, inclusive, and on said Plates 19 and 19A.

The pavement shall be eight (8) inches in thickness throughout its

The curb shall be constructed integral with the proposed pavement, along the edge of and on top of said proposed pavement, and the back of said curb shall be flush with the edge of said pavement. The width of sixteen hundred eighty (1680) lineal feet of the curb three (3) inches below the top of said curb, shall be eight (8) inches, and the width of twenty three thousand seven hundred seventy (23,770) lineal feet of the curb, three (3) inches below the top of said curb shall be six (6) inches; the height of the curb above the gutter line shall be six (6) inches; the exposed edges shall be rounded, as shown on said Plates 19 and 19A. The concrete for the curb shall be composed by volume of one (1) part Portland cement, two (2) parts sand, and three and one-half (3%) parts gravel or crushed stone, except that the exposed portion of said curb to a depth of one-half (%) inch shall be constructed of mortar composed by volume