

# Fitting In: Designing Multi-family Housing to Fit with the Community Context

Jocelyn Wenk, AICP

LONG ISLAND  
**INDEX**



# Build a Better Burb

Retrofitting Long Island Downtowns

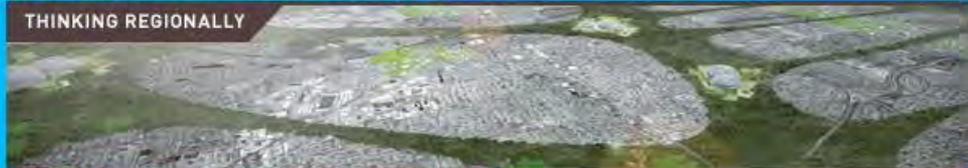
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HOUSING REINVENTED

The time for thinking cautiously is over.

New visions are needed for the next generation of suburban downtowns.



THINKING REGIONALLY



BETTER TRANSIT / LESS PARKING

Discover what's possible.



CREATING A SENSE OF PLACE

RECENTLY ADDED

[Changing the Status Quo](#)

[Historic Infrastructure](#)

[Uptown Normal Circle](#)



Crossings at Gresham Station, Gresham, OR

# Human-scale Segments



Benedict Commons, Aspen, CO

Cluster of Individual Dwellings



Benedict Commons, Aspen, CO

# Design Cues from Local History



Vista del Arroyo Bungalows, Pasadena, CA

Design Cues from Local History



Arverne by the Sea, the Rockaways, NY

## Selection of Context



Colony at Bandon Cove, Bandon, OR

Vernacular Materials



Burnham Building, Irvington, NY

# Adaptive Reuse



Granada Court, Pasadena, CA

# Parking Placement and Design



Highlands' Garden Village, Denver, CO

Transitions to Adjoining Areas



Highlands' Garden Village, Denver, CO

Outreach to Neighbors



Mission Meridian Village, South Pasadena, CA

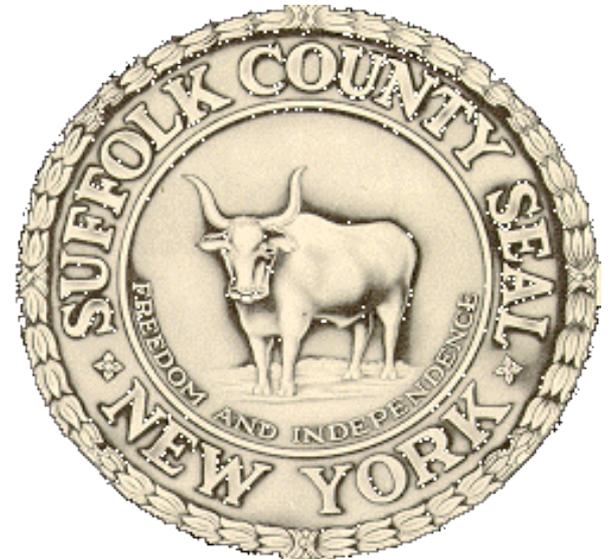
# Community Design Guidelines

Think Smart, Act Bold

# HOUSING BASELINE: WHERE WE ARE

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Sarah Lansdale  
Suffolk County



# Economic Indicators

- The region's economic output exceeds that of many countries.
- The median household income in the County is in the top 1% out of all counties in the nation.
- The County's average annual pay ranked in the top 4% of all counties in the nation.
- County unemployment rate in 2011 is better than 2010 and 2009.

# Housing Indicators

- The value of new residential construction in Suffolk County was \$300 million for the first 11 months of 2011, down 14% from 2010.
- The median home selling price in Suffolk County was \$317,250 in November 2011, down 2% from 2010 and down 22% from the 2006 figure.
- The number of properties coming into the Division of Real Property Acquisition and Management through the taking of tax deeds due to non-payment of taxes has increased 235% in the past year.

# Suffolk County Initiatives

- The County has transferred 546 vacant and uninhabitable parcels pursuant to the 72-h affordable housing program. Of that, 334 parcels are complete for affordable housing purposes and 212 are in various stages of development.
- Suffolk County has subsidized the construction of 442 affordable housing units in Melville, Huntington Station, Bay Shore, Patchogue Village, Coram, Riverhead and Southold.

# *Banking on Rebuilding Our Communities*

## **An Overview of New York State's Land Bank Act**

### **A NEW TOOL FOR SUFFOLK COUNTY'S**

- **PRESERVATION**
- **REVITALIZATION**
- **FUTURE**



Courtesy of:  
**Suffolk County Majority Leader  
DuWayne Gregory**

# What's the Problem ?

Foreclosure tracking agencies reported some seemingly good news for Long Island's festering housing market. Last November, bank take-backs in Suffolk County were down 30.5 percent from October and down 82.5 percent from a year earlier...

# But...

Experts point out those dips only happened because documentation problems between lenders and servicers delayed filings.

## Robo-Signing

**WHAT'S WORSE**, most analysts believe foreclosures will actually increase in the first quarter of 2012.



# Making the Case

- Since the 1970's, land banks have been created across the U.S. to convert vacant, abandoned, tax-delinquent properties into productive use.
- The powers, policies, priorities and strategies for land use and reuse vary, depending on each state's constitutional laws and differing divisions of power between state and local governments.



Courtesy of NYSAC (New York State Association of Counties)

# Land Banks Across the land

Experts have cited the following municipalities as operating the most effective land banks:

- Cleveland, Ohio
- Baltimore, Maryland
- Atlanta, Georgia
- St. Louis, Missouri
- Philadelphia, Pennsylvania
- Flint, Michigan

Courtesy of NYSAC (New York State Association of Counties)

# The Best of the Best

- Since its founding, the Genesee County Land Bank (***Flint, Michigan***) has sold 1,600 properties and raised \$6.4 million through sales.
- It has boosted property values county-wide by more than \$100 million.

# New York's Article 16



- In July of 2011 the New York State Legislature added a new article to the not-for-profit corporation law.
- **Article 16** allows municipalities to establish land banks for the purpose of acquiring real property that is tax delinquent, tax foreclosed, vacant, or abandoned.
- Once they establish a land bank, municipalities can then design, develop, construct, demolish, reconstruct, rehabilitate, renovate, relocate, and otherwise improve upon banked real property.

Courtesy of NYSAC (New York State Association of Counties)

# Acquisition of Property by a Land Bank

A land bank may acquire property in a number of ways. Including through:

- Gift
- Devise
- Transfer
- Exchange
- Foreclosure
- Purchase

Courtesy of NYSAC (New York State  
Association of Counties)

# **Eminent Domain is not Imminent**

- The New York State Land Bank Act does not permit a land bank to exercise eminent domain.
- Instead, the local government has to acquire such property first, and then convey it to a land bank.

Courtesy of NYSAC (New York State  
Association of Counties)

# Delinquent Property Tax Enforcement

A municipality may enter into a contract to sell delinquent tax liens to a land bank.

## **To do this:**

Property owners must be given at least 30 days notice of such sale.

A tax lien may be sold for **more or less** than its face value.

Courtesy of NYSAC (New York State  
Association of Counties)

# Disposition of Property by a Land Bank

Any property disposed of by a land bank may be used for a variety of purposes such as:

- Purely public places and affordable housing
- Retail/commercial/industrial activities
- Wildlife conservation areas



# Financing of Land Bank Operations

A land bank may receive funding through grants and loans from a Foreclosing Governmental Unit (FGU) or FGUs which created the land bank.

Funding may also be received from other municipalities, the State of New York, the Federal Government, and other public and private sources.



Courtesy of NYSAC (New York State Association of Counties)

# Other Funding Sources

Additionally, a land bank may finance its activities through:

- Payments for services rendered
- Rents and lease payments
- Consideration for disposition of real property
- Income from investments

Courtesy of NYSAC (New York State Association of Counties)

# Best Practices to Avoid Bad Outcomes

When not properly managed---or when managed solely for profit---land banks can have their drawbacks.

To avoid this, land bank policies should have:

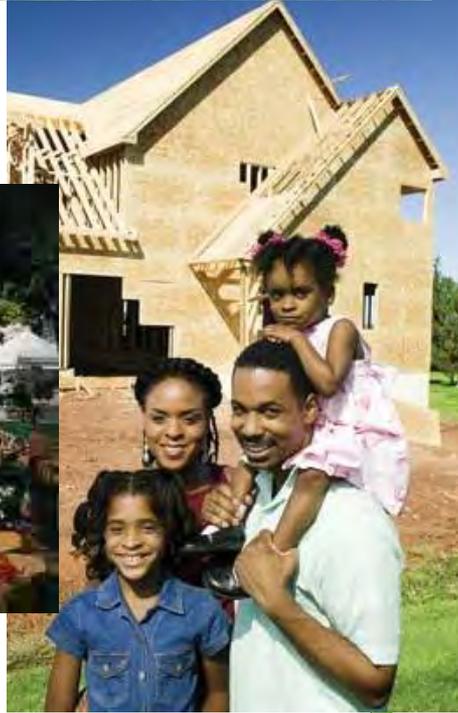
1. Narrow focus in the goals and objectives.
2. Coordination of governmental departments and an expedited judicial foreclosure process.
3. Corporate structuring of the land bank leads to successful long term implementation.
4. Integrated management information system, is critical for streamlining.
5. Development of a municipal-wide approach to land bank planning that is integrated with a long-term strategic vision.
6. Land banks should have the authority to determine the terms and conditions for sale.
7. Financing options should be flexible.

Courtesy of The Great Lakes Environmental  
Finance Center

# Banking on Rebuilding Suffolk's Communities



- On December 20, 2011, the Suffolk County Legislature unanimously adopted my resolution, **R.1117**  
*(sponsored by Gregory)*
- This directs the Planning Department to study the efficacy of the State-authorized land bank's structure and function, as well as the potential benefits and costs associated with establishing the land bank.
- 180 days to issue a written report with recommendation to the Legislature and County Executive Bellone.



Thank you for  
your time

Suffolk County  
Majority Leader  
DuWayne Gregory



# What Works in Affordable Housing

Peter J. Elkowitz, Jr.  
President & CEO  
Long Island Housing Partnership, Inc.



What is affordable?

Homeownership

# What is Affordable? - Homeownership

- Housing expenses include principal, interest, taxes and insurance.
- Housing is considered “affordable” when about 30% or less of a household’s income is spent on housing expenses.
- In 2011, the median home sale price in Suffolk County was \$308,000.
- For a family of three earning the HUD area median income (AMI) of \$95,500, an affordable housing expense would be a maximum of \$2,400 per month.
- In a neighborhood where taxes are \$800 per month and insurance is \$100, this family could pay \$1,500 per month for the mortgage. At a rate of five percent over 30 years, they can borrow about \$280,000.
- As you can see, this median Long Island family would need a \$28,000 down payment and another \$15,000 for closing costs to afford the median Long Island home. That is a total of \$43,000 up front.

# What is Affordable? - Homeownership

- How many families do you know that make \$95,000 AND have \$43,000 they can use to purchase a home?
- The national savings rate is about 3.5 percent per year. This means that the median family would need to save for 13 years and never make large expenses for cars or healthcare during that time.
- What about when you factor in the high cost of living – food, gas, utilities, etc. – on Long Island, where the cost of living index is 40 percent higher than the national average?
- Do you know that, according to the census, almost half of Suffolk County households earn less than \$75,000?
- Even though 80 percent of AMI is the maximum for many affordable housing programs, most families who need assistance earn 60 to 70 percent of AMI.
- This equates to about \$65,000 for a family of three or \$75,000 for a family of four, and assumes that somehow the extra family members are contributing income, very unlikely for a family with two or three children.

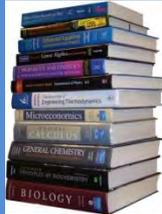
# What is Affordable? - Homeownership

- Let's look at an example for a family of three that earns \$65,000, which puts them slightly below 70 percent of AMI.
- This family can afford to spend about \$1,625 per month on housing expenses.
- If taxes are \$800 per month and insurance is \$100, this family can afford to spend about \$725 on a mortgage payment.
- Therefore, they can afford a mortgage of about \$135,000.
- Take a home that will be sold for just \$235,000, which would be \$73,000 less than the Suffolk median.
- In order to afford to purchase even this less expensive home, the family would need about **\$115,000** for down payment and closing costs.
- At a savings rate of 3.5 percent per year, this family would need 44 years to save enough money. In other words, it will be nearly impossible for them to purchase a home without assistance.

# What Works? – Target the Need by Income

## Median Salary – Suffolk County

<u>Janitor</u>	<u>Admin Assistant</u>	<u>Healthcare Technician</u>	<u>Construction Worker</u>	<u>Teacher</u>	<u>IT Professional</u>	<u>Business Manager</u>	<u>Research Scientist</u>
\$24,000	\$30,000	\$35,000	\$45,000	\$60,000	\$77,000	\$90,000	\$101,000



\*Taxes + Insurance Greater Than Housing Expense

\$42,000 Mortgage

\$112,000 Mortgage

\$191,000 Mortgage

\$252,000 Mortgage

\$303,000 Mortgage

What is affordable?

Rentals

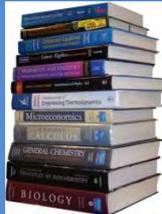
# What is Affordable? – Rentals

- There are four major obstacles for rentals in Suffolk County:
  - 1) A low rental-housing stock of about 20 percent
  - 2) For families, it is difficult to find a legal rental with more than two bedrooms.
  - 3) For individuals, there are few affordable legal apartments, so they are forced to live at home with family or leave Long Island.
  - 4) There is NIMBYism toward rental developments.
- Fair market rent for a two-bedroom apartment in Suffolk County is \$1,682 per month.
- A family would need to earn at least \$67,000 in order to afford this rent.
- Most families looking for rent earn significantly less – between \$45,000 and \$55,000. These families can afford to pay between \$1,125 and \$1,375.
- For an individual earning \$35,000 to \$40,000, an affordable rent would be \$875 to \$1,000.

# What Works? – Target the Need by Income

## Median Salary – Suffolk County

<u>Janitor</u>	<u>Admin Assistant</u>	<u>Healthcare Technician</u>	<u>Construction Worker</u>	<u>Teacher</u>	<u>IT Professional</u>	<u>Business Manager</u>	<u>Research Scientist</u>
\$24,000	\$30,000	\$35,000	\$45,000	\$60,000	\$77,000	\$90,000	\$101,000



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\$600	\$750	\$875	\$1,125	\$1,500	\$1,925	\$2,250	\$2,525
Rent	Rent	Rent	Rent	Rent	Rent	Rent	Rent

Source: U.S. Census Bureau American Community Survey

What should an affordable  
single-family home look like?

What did an “Affordable Home” look like then?



What does an “Affordable Home” look like now?



# Where would you want to live?



What should an affordable  
multi-family building look like?

What did a multi-family development look like then?



What does a multi-family development look like now?





Where would you want to live?

What Works?

Design

# What Works? - Design

- Fits Into the Neighborhood
  - ❑ No one should be able to tell it's an “affordable” house
- Location – need mix of various types
  - ❑ Multi-family homes within walking distance of Long Island Railroad, buses, shopping and entertainment
  - ❑ Single-family home with a backyard
- Affordability
  - ❑ Energy efficient homes help homeowners save on rising utility costs
  - ❑ Rentals should be priced between \$600 and \$1,125 per month
  - ❑ Homeownership should be priced at \$190,000 after subsidy

What Works?

Programs

# What Works? - Programs

- Down Payment and Closing Costs Assistance:
  - ❑ Families who can afford to pay the monthly mortgage may not be able to save for a down payment or closing costs.
- Neighborhood Stabilization Program
  - ❑ Rehabilitation of foreclosed homes in neighborhoods hit-hard by the housing crisis.
- Employer Assisted Housing
  - ❑ Employer contributions are leveraged with public funds
  - ❑ Over 120 employers, with workforces ranging from three to 10,000, have helped more than 300 of their employees purchase and rehabilitate homes
  - ❑ \$12 million in public funds have generated over \$100 million in private bank loans and rehabilitation contracts

# BUILDING PERMITS ISSUED-SINGLE FAMILY HOMES

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>NASSAU</b>												
Glen Cove	38	22	26	2	6	13	21	3	4	3	3	3
Long Beach	12	9	10	11	3	7	4	6	15	11	14	9
Hempstead	316	282	311	294	361	748	512	254	142	108	115	72
N. Hempstead	203	167	238	208	194	175	74	18	38	14	33	28
Oyster Bay	184	208	155	119	166	254	243	175	332	142	142	72
<b>TOTAL</b>	<b>753</b>	<b>688</b>	<b>740</b>	<b>634</b>	<b>730</b>	<b>1,197</b>	<b>854</b>	<b>456</b>	<b>531</b>	<b>278</b>	<b>307</b>	<b>184</b>
<b>SUFFOLK</b>												
Babylon	130	158	161	137	146	169	112	87	44	30	20	15
Brookhaven	1451	1536	1422	954	1112	2122	756	572	164	165	262	208
East Hampton	405	306	211	183	250	241	20	153	98	77	87	68
Huntington	234	219	222	206	224	219	156	129	72	76	62	40
Islip	381	220	202	233	243	522	320	155	101	42	64	47
Riverhead	180	176	228	206	213	168	108	136	57	62	56	32
Shelter Island	52	42	40	39	40	33	25	16	13	9	11	4
Smithtown	190	141	244	124	134	100	115	96	38	72	44	36
Southampton	732	541	597	421	427	521	297	274	175	4	163	165
Southold	155	149	154	146	151	146	117	94	59	47	50	40
<b>TOTAL</b>	<b>3910</b>	<b>3488</b>	<b>3481</b>	<b>2649</b>	<b>2940</b>	<b>4241</b>	<b>2026</b>	<b>1712</b>	<b>821</b>	<b>584</b>	<b>819</b>	<b>655</b>
<b>LONG ISLAND</b>	<b>4663</b>	<b>4176</b>	<b>4221</b>	<b>3283</b>	<b>3670</b>	<b>5438</b>	<b>2880</b>	<b>2168</b>	<b>1352</b>	<b>862</b>	<b>1126</b>	<b>839</b>

Source: U.S. Bureau of the Census- Building Permits  
 Prepared by Dr. Thomas Conoscenti Ph. D

# × Long Island Total Building Permits Issued

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>NASSAU</b>												
Glen Cove	48	28	26	6	18	13	26	4	4	3	3	3
Long Beach	20	23	26	29	25	27	24	10	16	11	14	9
Hempstead	484	288	335	296	407	774	514	254	27	108	115	72
N. Hempstead	290	243	326	514	549	360	77	18	38	14	33	28
Oyster Bay	661	407	272	128	173	261	74	137	332	142	142	72
<b>TOTAL</b>	<b>1503</b>	<b>989</b>	<b>985</b>	<b>973</b>	<b>1172</b>	<b>1435</b>	<b>715</b>	<b>423</b>	<b>417</b>	<b>278</b>	<b>307</b>	<b>184</b>
<b>SUFFOLK</b>												
Babylon	338	286	391	215	146	171	122	89	58	30	20	15
Brookhaven	1461	1882	1634	954	1112	2794	756	572	164	165	263	208
East Hampton	405	306	211	183	250	241	20	153	98	77	87	68
Huntington	234	219	222	206	224	219	162	129	72	76	62	40
Islip	662	553	295	233	287	790	321	156	103	49	119	52
Riverhead	598	492	583	610	620	168	108	142	57	62	56	32
Shelter Island	52	42	50	39	40	33	28	16	13	9	11	4
Smithtown	292	210	244	207	134	100	119	96	51	72	44	36
Southampton	735	541	597	421	427	521	297	274	175	4	163	165
Southold	155	149	157	149	157	146	117	94	59	47	50	40
<b>TOTAL</b>	<b>4932</b>	<b>4680</b>	<b>4384</b>	<b>3217</b>	<b>3397</b>	<b>5183</b>	<b>2050</b>	<b>1721</b>	<b>850</b>	<b>591</b>	<b>875</b>	<b>660</b>
<b>LONG ISLAND</b>	<b>6435</b>	<b>5669</b>	<b>5369</b>	<b>4190</b>	<b>4569</b>	<b>6618</b>	<b>2765</b>	<b>2144</b>	<b>1267</b>	<b>869</b>	<b>1182</b>	<b>844</b>

Source: U.S. Bureau of the Census- Building Permits  
 Prepared by Dr. Thomas Conoscenti Ph. D

# PERCENTAGE OF BUILDING PERMITS ISSUED BY MUNICIPALITIES ON LONG ISLAND

NASSAU	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Glen Cove	0.8%	0.5%	0.6%	0.1%	0.2%	0.2%	0.7%	0.1%	0.3%	0.3%	0.3%	0.4%
Long Beach	0.3%	0.2%	0.2%	0.3%	0.1%	0.1%	0.1%	0.3%	1.1%	1.3%	1.2%	1.1%
Hempstead	6.8%	6.8%	7.4%	9.0%	9.8%	13.8%	17.8%	11.7%	10.5%	12.5%	10.2%	8.6%
N. Hempstead	4.4%	4.0%	5.6%	6.3%	5.3%	3.2%	2.6%	0.8%	2.8%	1.6%	2.9%	3.3%
Oyster Bay	3.9%	5.0%	3.7%	3.6%	4.5%	4.7%	8.4%	8.1%	24.6%	16.5%	12.6%	8.6%
<b>TOTALS</b>	<b>16.1%</b>	<b>16.5%</b>	<b>17.5%</b>	<b>19.3%</b>	<b>19.9%</b>	<b>22.0%</b>	<b>29.7%</b>	<b>21.0%</b>	<b>39.3%</b>	<b>32.3%</b>	<b>27.3%</b>	<b>21.9%</b>
SUFFOLK												
Babylon	2.8%	3.8%	3.8%	4.2%	4.0%	3.1%	3.9%	4.0%	3.3%	3.5%	1.8%	1.8%
Brookhaven	31.1%	36.8%	33.7%	29.1%	30.3%	39.0%	26.3%	26.4%	12.1%	19.1%	23.3%	24.8%
East Hampton	8.7%	7.3%	5.0%	5.6%	6.8%	4.4%	0.7%	7.1%	7.2%	8.9%	7.7%	8.1%
Huntington	5.0%	5.2%	5.3%	6.3%	6.1%	4.0%	5.4%	6.0%	5.3%	8.8%	5.5%	4.8%
Islip	8.2%	5.3%	4.8%	7.1%	6.6%	9.6%	11.1%	7.1%	7.5%	4.9%	5.7%	5.6%
Riverhead	3.9%	4.2%	5.4%	6.3%	5.8%	3.1%	3.8%	6.3%	4.2%	7.2%	5.0%	3.8%
Shelter Island	1.1%	1.0%	0.9%	1.2%	1.1%	0.6%	0.9%	0.7%	1.0%	1.0%	1.0%	0.5%
Smithtown	4.1%	3.4%	5.8%	3.8%	3.7%	1.8%	4.0%	4.4%	2.8%	8.4%	3.9%	4.9%
Southampton	15.7%	13.0%	14.1%	12.8%	11.6%	9.6%	10.3%	12.6%	12.9%	0.5%	14.5%	19.7%
Southold	3.3%	3.6%	3.6%	4.4%	4.1%	2.7%	4.1%	4.3%	4.4%	5.5%	4.4%	4.8%
<b>TOTALS</b>	<b>83.9%</b>	<b>83.5%</b>	<b>82.5%</b>	<b>80.7%</b>	<b>80.1%</b>	<b>78.0%</b>	<b>70.3%</b>	<b>79.0%</b>	<b>60.7%</b>	<b>67.7%</b>	<b>72.7%</b>	<b>78.1%</b>

Source: U.S. Bureau of the Census- Building Permits  
 Prepared by Dr. Thomas Conoscenti Ph. D

# SUFFOLK COUNTY HOUSING SUMMIT 2012

Penciling Out a Housing  
Development:  
A Developer's Perspective

# PROCESS

- ▶ Site Selection – Underlying Zoning
- ▶ Feasibility – Is there a need
- ▶ Land Transaction – Land Acquisition
- ▶ Product – Multi-Family / For Sale / Rental
- ▶ Concept Plan – Product / Site Lay Out / Sewer
- ▶ Town / County / Civic Meeting



# BLIGHTED PROPERTY



# PROCESS

- ▶ Make Application – Change of Zone / Sub-Division / Land Division
- ▶ EIS / DEIS / FEIS – Public Scoping
- ▶ Change of Zone Granted\*
- ▶ Now Site Plan Application\*\*
- ▶ SCDHS Approval\*\*\*
- ▶ NYS Attorney General Approval\*\*\*\*
- ▶ Total Time 2 to 3 years



# COSTS

- ▶ \* Funds Spent to obtain Change of Zone – \$500k
- ▶ \*\* Funds Spent to Site Plan Approval – \$300k
- ▶ \*\*\* Funds Spent to Build STP – \$800k  
Chromoglass – \$3mm for 50,000 g/p/d
- ▶ \*\*\*\* Funds Spent to obtain NYS Attorney General Approval – \$30,000 per Plan



# RISKS



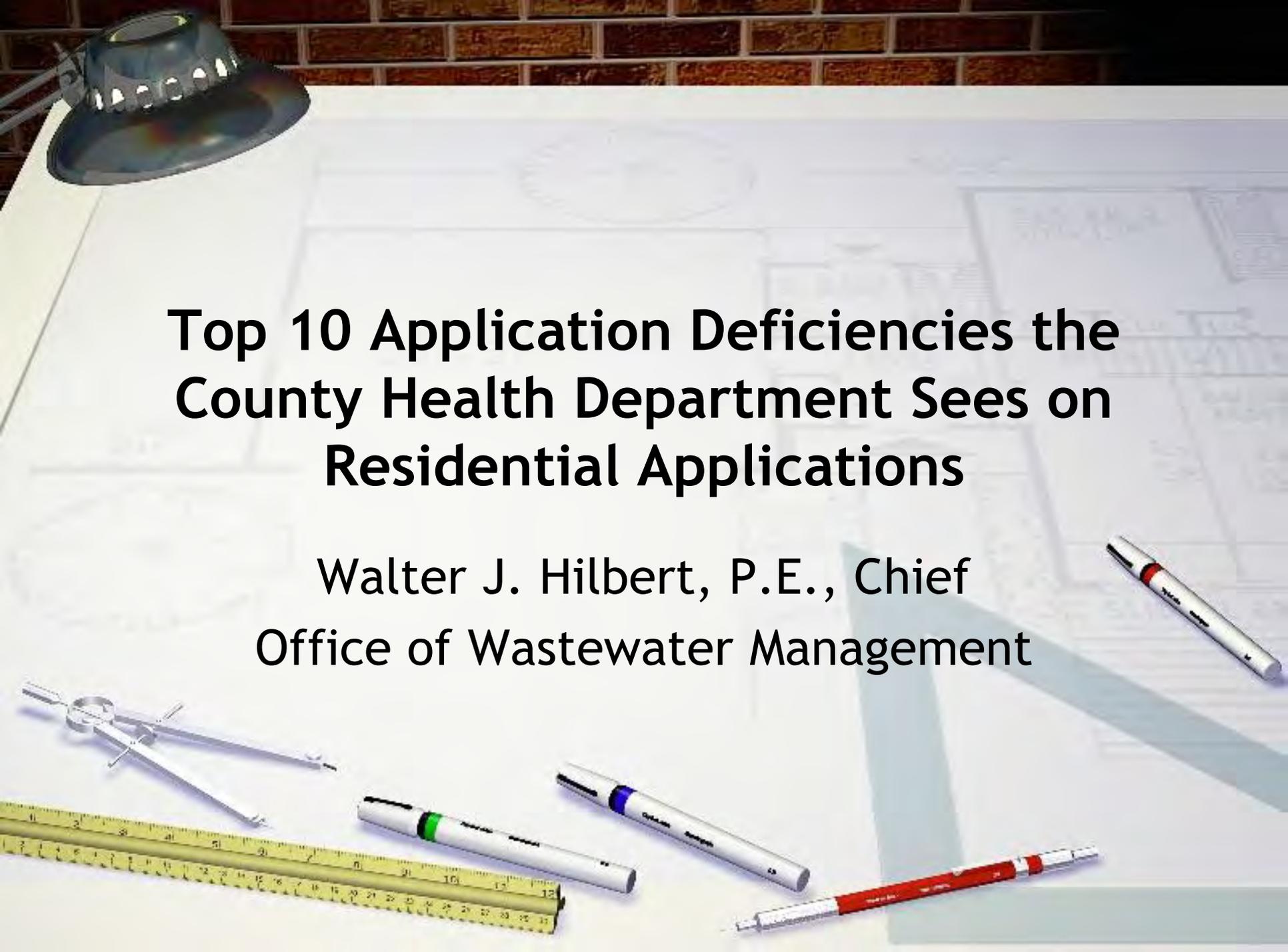
- ▶ Personal Funds Spent on Entitlements and Land
- ▶ Time value of developer funds and developer time
- ▶ Bank Financing – Personal Guaranties
- ▶ Market Risk – Pace and Mortgage Financing

# BENEFITS

- ▶ Redevelop Blighted Sites
  - ▶ Diversify Housing Stock
  - ▶ Increase Tax Base – \$200k vs \$1mm
  - ▶ Job Creation – 3 jobs for every home built
  - ▶ Economic Development – trickle down impact of home buyer spending / mortgage tax generation
- 

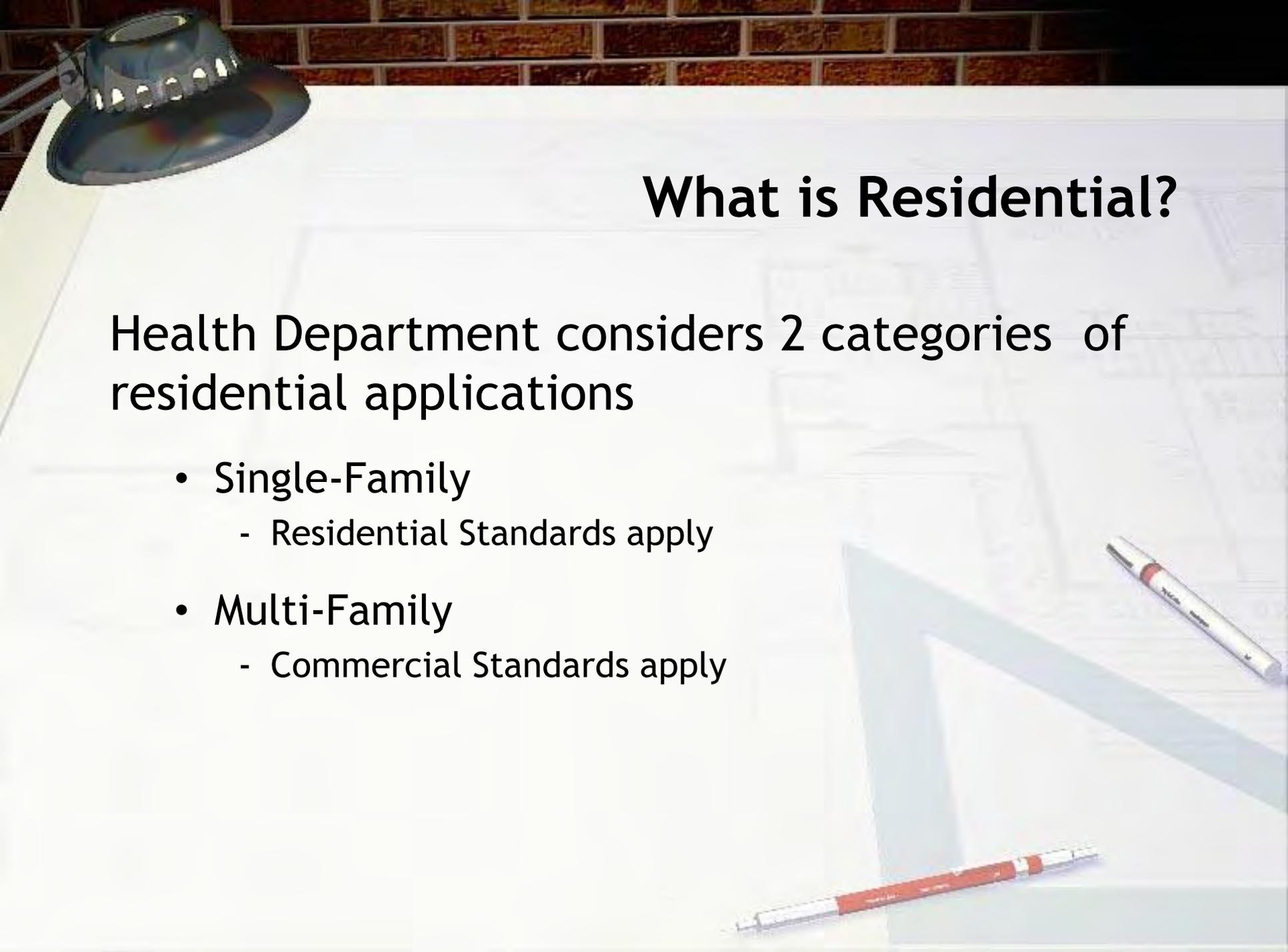
# THE RIVERWALK





# Top 10 Application Deficiencies the County Health Department Sees on Residential Applications

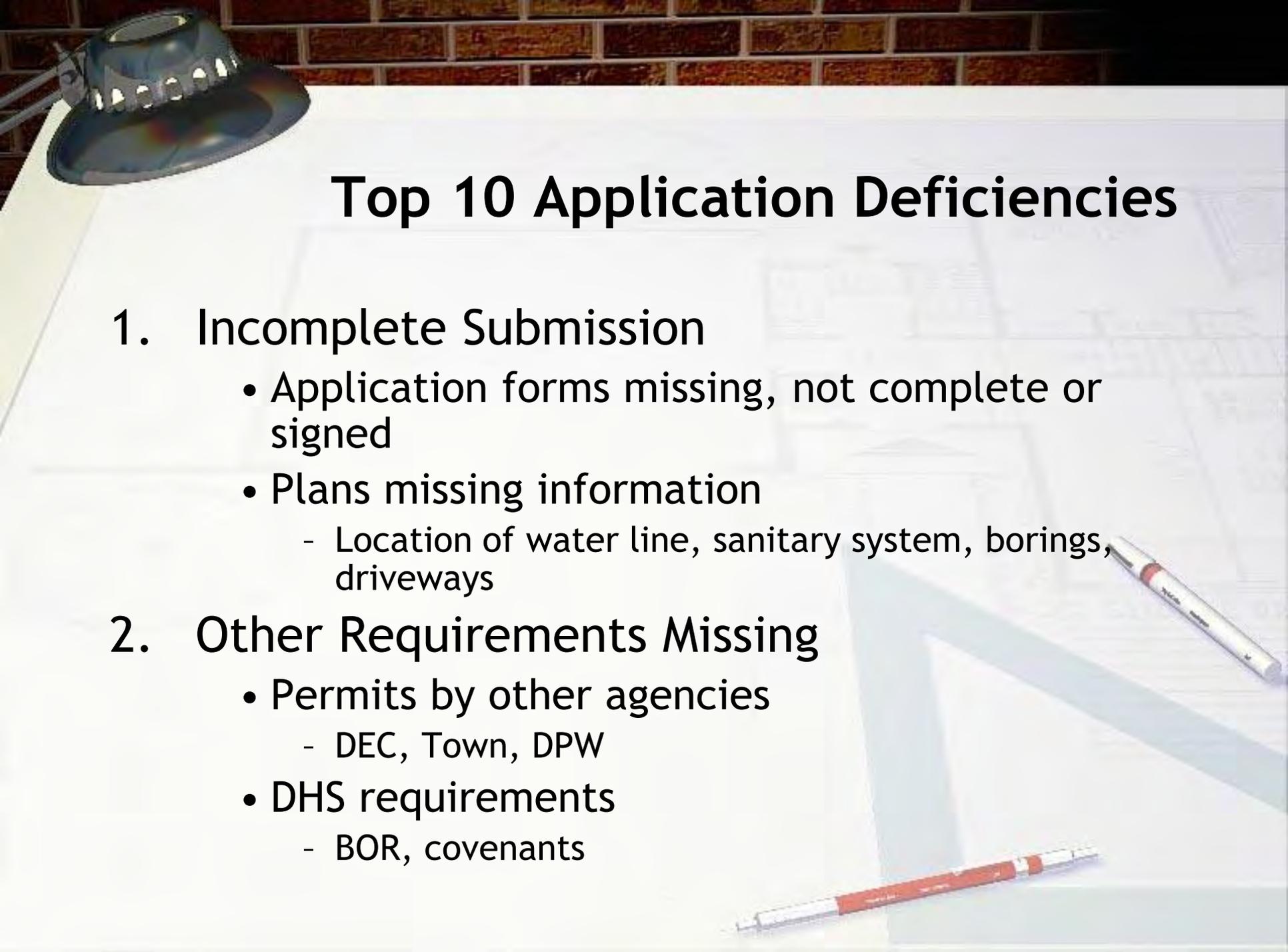
Walter J. Hilbert, P.E., Chief  
Office of Wastewater Management



# What is Residential?

Health Department considers 2 categories of residential applications

- **Single-Family**
  - Residential Standards apply
- **Multi-Family**
  - Commercial Standards apply



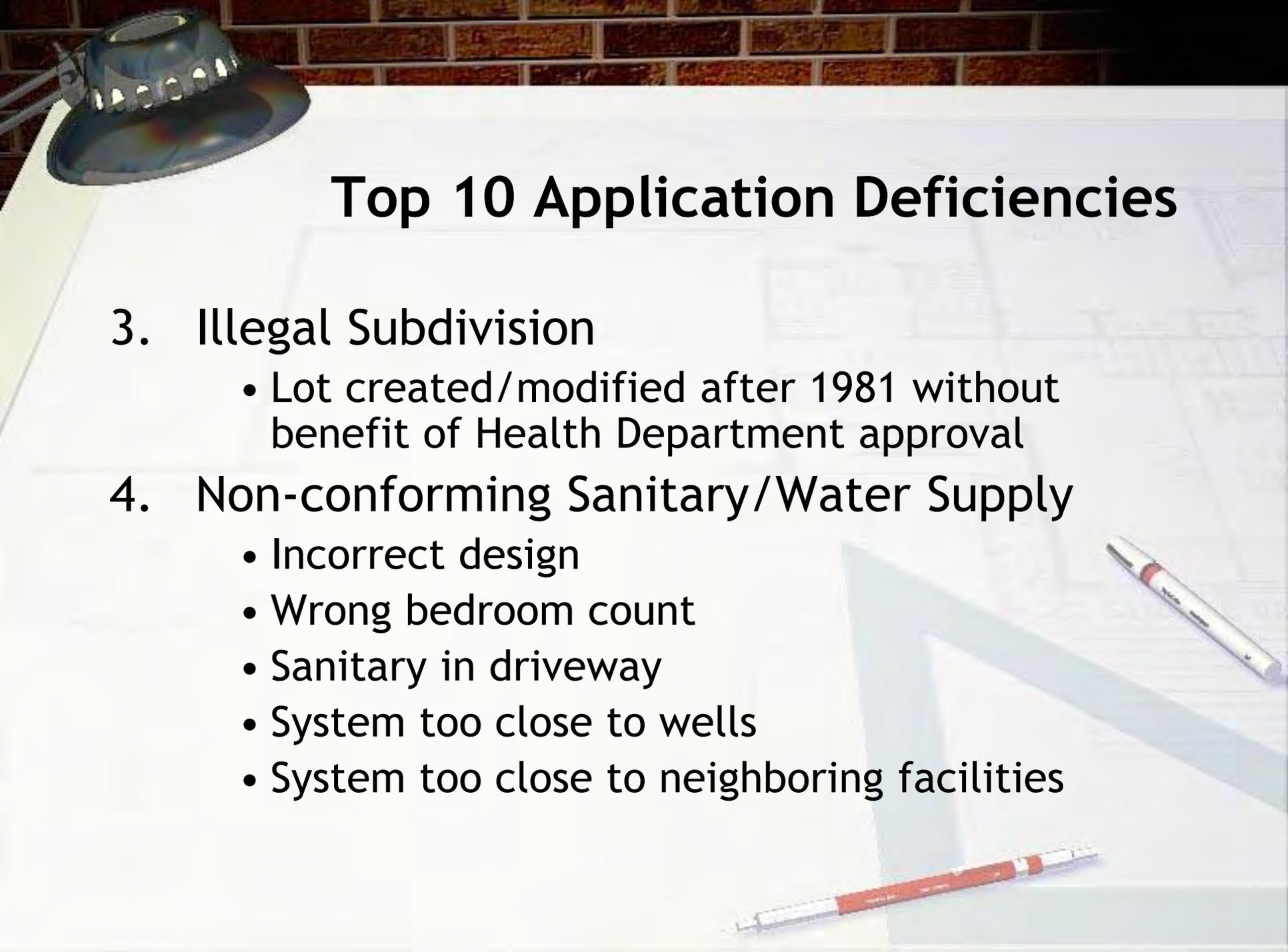
# Top 10 Application Deficiencies

## 1. Incomplete Submission

- Application forms missing, not complete or signed
- Plans missing information
  - Location of water line, sanitary system, borings, driveways

## 2. Other Requirements Missing

- Permits by other agencies
  - DEC, Town, DPW
- DHS requirements
  - BOR, covenants



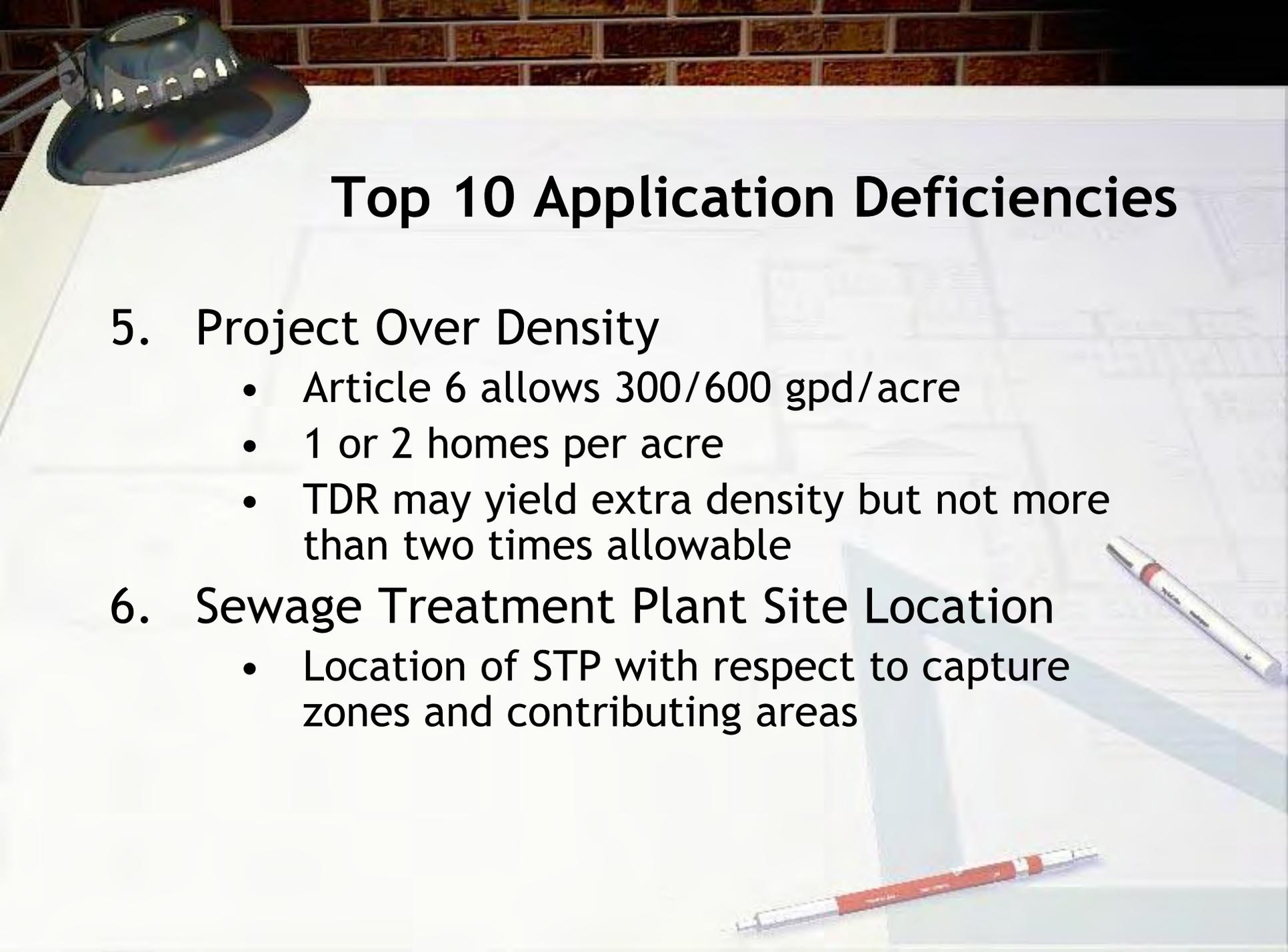
# Top 10 Application Deficiencies

## 3. Illegal Subdivision

- Lot created/modified after 1981 without benefit of Health Department approval

## 4. Non-conforming Sanitary/Water Supply

- Incorrect design
- Wrong bedroom count
- Sanitary in driveway
- System too close to wells
- System too close to neighboring facilities



# Top 10 Application Deficiencies

## 5. Project Over Density

- Article 6 allows 300/600 gpd/acre
- 1 or 2 homes per acre
- TDR may yield extra density but not more than two times allowable

## 6. Sewage Treatment Plant Site Location

- Location of STP with respect to capture zones and contributing areas



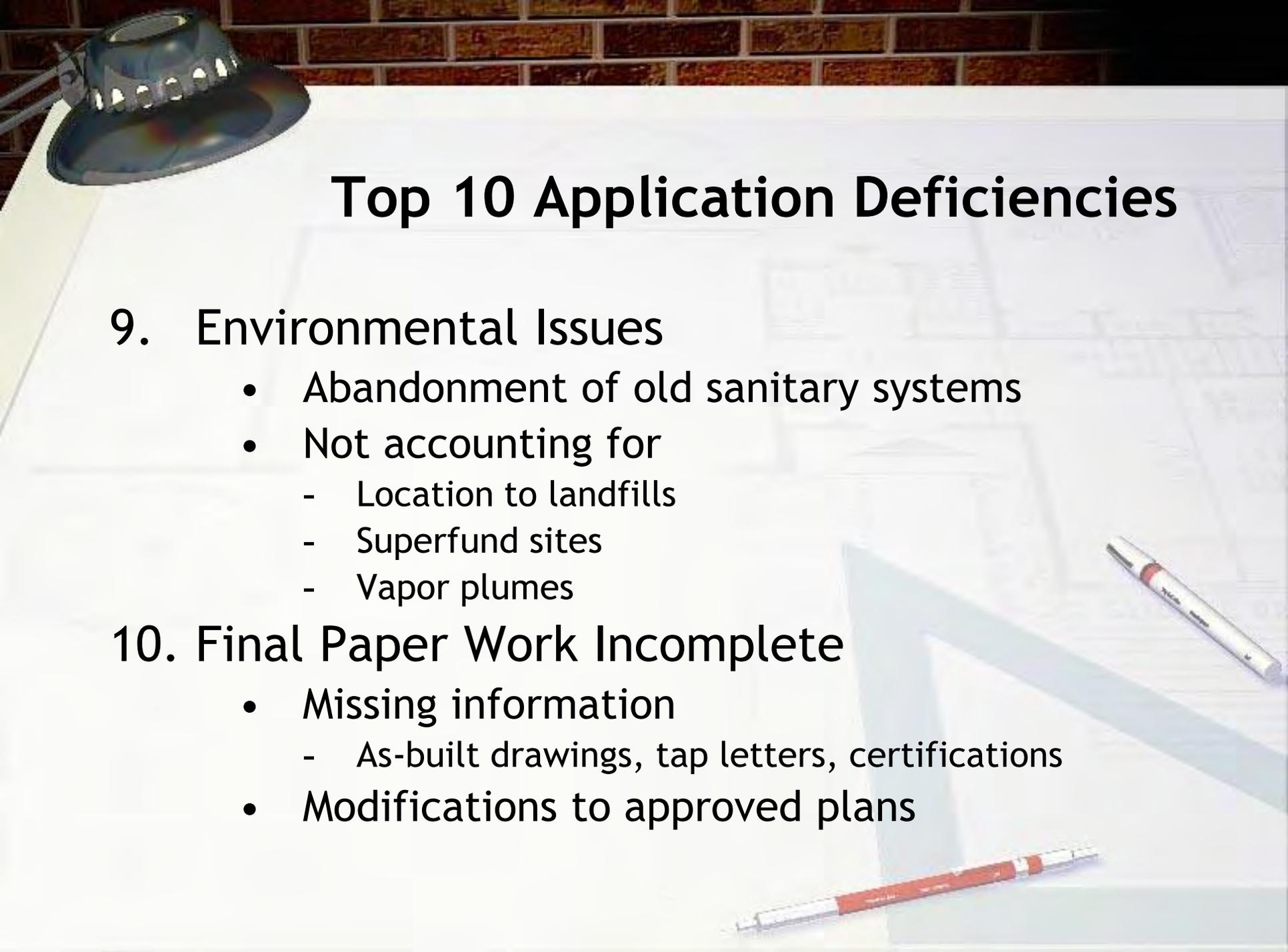
# Top 10 Application Deficiencies

## 7. Sewage Treatment Plant Location

- Location of STP on the site
  - Distance to property line, buffer area, building setbacks

## 8. Design of STP, Collection System and Water Supply

- Incomplete reports, plans not meeting standards



# Top 10 Application Deficiencies

## 9. Environmental Issues

- Abandonment of old sanitary systems
- Not accounting for
  - Location to landfills
  - Superfund sites
  - Vapor plumes

## 10. Final Paper Work Incomplete

- Missing information
  - As-built drawings, tap letters, certifications
- Modifications to approved plans